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Autism spectrum disorders in childhood, adolescence and adulthood

Part 2: Therapy

Interdisciplinary S3 guideline of the DGKJP and the DGPPN as well as the participating professional societies, professional associations and patient organisations

Short version: Handling notes and recommendations

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Foreword

Christine M. Friday

Below you will find the **abridged version** of the second part of the S3 Guideline on Autism Spectrum Disorders in Childhood, Adolescence and Adulthood - Part Therapy. This abridged version contains introductory notes on the professional understanding and implementation of the recommendations of the guideline, followed by all recommendations that were consented by the participating professional societies. Individual professional societies submitted special votes during the voting process. A reference to these special votes is made in both the short and the long version directly after the corresponding recommendation. The special votes and the reasons for them can be read in full in the CPG Report.

The second part of the S3 Guideline on Autism Spectrum Disorders in Childhood, Adolescence and Adulthood comprehensively presents all therapeutic approaches that have been systematically investigated and published with regard to the clinical picture of autism spectrum disorders including frequent comorbid mental disorders on the basis of empirical studies up to the beginning of the respective consensus process. The evidence-based recommendations refer to empirically studied effective and demonstrably ineffective procedures. Accordingly, the effective procedures should be used regularly, and the demonstrably ineffective procedures should not be used. In addition, consensus-based recommendations were agreed and adopted if the study situation was insufficient for certain questions.

Central to the correct interpretation and implementation of the recommendations below is the selection of individual therapy goals appropriate to the age and cognitive abilities of the patient with ASD:

Therapy planning always includes the formulation of specific therapy goals before therapy begins, which can be formulated for ASD with regard to a change in the core symptomatology on the one hand, and with regard to the treatment of comorbid mental and somatic disorders on the other. The present recommendations list the specific therapeutic methods that are used with regard to improving core symptomatology as well as comorbid mental disorders. In order to be able to use effective therapy methods (including drug therapy) correctly and for the benefit of the affected persons as well as their relatives/caregivers, the guideline differentiates both with regard to the relevant therapy goals and with regard to certain characteristics of the patients with autism spectrum disorder, such as current age and cognitive skills. The *selection of achievable therapy goals that are relevant for the affected person in terms of learning gains or coping with everyday life is one of the most difficult steps in*

therapy planning and requires both good diagnostics and good support diagnostics. In addition, currently relevant therapy goals must be defined and agreed upon in discussion with the patient as well as with the patient's parents or other important caregivers. On the question of therapy goals as well as an always necessary therapy goal hierarchy, which also includes the treatment of comorbid mental disorders, numerous references are given in the long version and partly also directly in the recommendations.

An important principle and guiding principle with regard to all therapeutic interventions for autism spectrum disorders is summarized here once again: Therapeutic **intervention, including medication and general psychosocial intervention or support, should only be offered, regularly evaluated, and appropriately limited in time after appropriate diagnosis / support diagnosis and in relation to clearly defined and likely achievable therapeutic goals.**

Since the chapters are arranged according to therapy goals, the effective and ineffective therapy methods are also assigned to these therapy goals. The corresponding recommended therapy methods can and should of course be combined if different therapy goals are to be achieved. In this respect, there is an overall context to all recommendations, which should be taken into account when interpreting and implementing the recommendations. If a therapy approach is not mentioned under a certain therapy goal, this does not mean that this approach is therefore fundamentally ineffective. It may either be effective with regard to another therapeutic objective and is then described under the corresponding therapeutic objective. Or it may not have been sufficiently investigated so far. In this case, the empirically proven effective therapy methods should be used with regard to the therapy goal or the consensus-based recommendations should be followed, which have certainly also included interventions not yet proven by corresponding studies.

The therapeutic procedures have been grouped into psychosocial, medicinal and other in order to facilitate clarity as far as possible. In some cases, additional subheadings have been added. Psychosocial therapies include all exercise and psychoeducational methods, including classical behavioural therapy approaches; medicinal therapies include both drugs and dietary supplements; other therapies include, for example, neurofeedback or diets.

With regard to the recommended drugs, only the active substances are mentioned. Only active substances that are available in Germany are recommended. However, it was not checked whether the respective active substances are approved for the corresponding age group with the corresponding indication, as this was not possible within the framework of the preparation of the guideline and is also very difficult to keep up to date due to the regular changes. **It is therefore the responsibility of the respective prescribing physician to check any off-label status.**

Ethically unacceptable interventions have unfortunately been used more frequently in the history of dealing with individuals with autism spectrum disorder and are therefore addressed in the guideline (see C.11 Harmful and ethically questionable procedures). These procedures should, of course, never be used. This is still relevant because, for example, when dealing with disruptive and aggressive behaviour, measures are still sometimes taken that are ethically unacceptable. It should be pointed out here that the legal guidelines for any necessary deprivation of liberty in the absence of insight into treatment and necessary treatment are set very narrowly and are regulated either in childhood and adolescence by the German Civil Code (BGB) or generally by state laws for mentally ill persons. The very tightly set legal requirements (BGB §1631b, PsychK(H)G laws of the individual federal states) of a deprivation of liberty also apply to care facilities and not only to hospitals / psychiatric clinics.

Finally, I would like to take this opportunity to express my sincere thanks to Dr. Leonora Vllasaliu, without whose active support, commitment and perseverance this comprehensive part of the guideline would never have come about. We would also like to express our sincere thanks to all the student assistantswhom she has guided and who have significantly supported the literature search and study extraction.

Dr Jensen from the Institute of Medical Biometry, Informatics and Epidemiology at Heidelberg University Hospital was always available with methodological advice and carried out all meta-analyses. Sincere thanks also go to her.

A significant contribution to the guidelines was made by all authors - named accordingly in the chapter titles - who wrote the respective texts based on the included literature and the study extraction forms. We would like to express our sincere thanks to all of them.

The consensus process across all participating scientific societies included only the recommendations; the authors named are ultimately responsible for the associated texts.

Frankfurt, 4 May 2021 Prof. Dr. Christine M. Freitag

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C.1 Introduction

Recommendation 1: C.1.1 Need to formulate concrete, individual therapy goals (consensus-based)

	Key question TSF 1: What therapeutic goals can be formulated for ASD?
KKP	People with autism spectrum disorders usually live with a chronic disorder or disability that has a variable course. The diagnosis does not per se imply that ongoing therapeutic or other supportive interventions must be provided. Every therapy and intervention should be planned with clearly defined, concrete therapy goals and for a limited period of time. Each person with an autism spectrum disorder and, in the case of children and adolescents, the parents or guardians should be involved in the formulation of concrete therapy goals, which should be defined realistically and appropriately to the respective individual needs. In all therapeutic and supportive measures, attention should always be paid to maximum possible independence and autonomy from external help. The overall therapy goal is to improve the quality of life and participation opportunities of people with autism spectrum disorders and their families. This is concretized by the following therapy goals: The main goals of therapy are the improvement of autistic core symptoms in the areas of social interaction and communication (area A) as well as stereotypical and repetitive behaviour and stressful sensory and special interests (area B). In this context, the respective precursor functions in childhood belonging to the two areas, essential partial aspects of the corresponding skills as well as the individual development of the skills in areas A & B, the individual restriction and burden, in childhood and well as in the case of cared-for adults also the wishes of the parents/guardians/caregivers as well as the individual learning possibilities of the person with autism spectrum disorder should be taken into account with regard to the therapy planning. Essential therapy goals in this area are listed in section C. 4 Therapies to improve autism-specific symptoms

	The promotion of receptive and expressive language skills should also be chosen as an important therapy goal for children who cannot yet speak actively. Specific therapy goals in this area are listed in section C.5 Specific comorbid developmental disorders The promotion of everyday practical skills as well as the maximum possible independence should also be chosen as an essential therapy goal in all age groups, irrespective of cognitive skills. Specific therapy goals in this area are listed in section C.6.2 Everyday practical skills and adaptive behaviour In addition to the core autistic symptomatology, psychiatric and somatic comorbid disorders should be treated promptly after diagnosis. The present guideline cannot specifically address the treatment of somatic comorbid disorders; it should be carried out lege artis in accordance with current evidence. With regard to the reduction of barriers tocontact with physicians, reference is made to the recommendations in Section C. 2 Expectations on the part of the patients / relatives regarding the therapy &. C. 3 Structure of care and qualification of therapists . With regard to the treatment of developmental and mental comorbid disorders and the associated therapeutic goals, reference is made to Chapters C.5 - C.7. These goals specify the areas mapped in the WHO's *International Classification of Functioning* (ICF) and should be taken into account in all - therapy and support planning.
	Strong consensus[1] (>95% agreement)

[1] Although the votes during the consensus conference were conducted successively and partly sentence by sentence, they are combined into a consensus strength for the recommendations in each case. The detailed voting protocols can be found in the appendix of the guideline.

Recommendation 2: C.1.2 Need to improve current care (consensus-based)

	Key question TSF 1: What therapeutic goals can be formulated for ASD?
KKP	Care should be provided in such a way that people with autism spectrum disorders can receive the necessary, evidence-based therapeutic and other supportive measures they need to cope with their everyday lives. Here, the guideline group sees a great need for development in our health and social care system.
	Strong consensus (>95% agreement)

Recommendation 3: C.1.3 Basic aspects of everyday interaction with people with autism spectrum disorder (consensus-based)

	Key question TSF 2: What are the basic aspects to be considered in everyday interactions with autistic persons, what is useful, what is harmful?
KKP	People with autism spectrum disorders have individual abilities and needs that should be taken into account in everyday interactions. The following aspects are particularly helpful in dealing with people with autism spectrum disorders: Possibility of non-verbal contact; concrete, direct address that corresponds to the developmental age of the person with autism spectrum; structuring of the environment and of action sequences (e.g. through visual means, predictability and personal constancy); maintaining physical distance; avoiding strong sensory stimuli (e.g. noise, smell, light, etc.). A discrepancy between cognitive and social/daily practical skills should be taken into account. Under- or overstraining with regard to everyday requirements and therapy goals should be avoided.
	Strong consensus (>95% agreement)

C. 2 Expectations on the part of the patients / relatives regarding the therapy

Recommendation 4: C.2.1 Expectations of care (consensus-based)

	Key question TSF 3: What expectations do patients, parents/guardians/caregivers have of care?
KKP	**All ages <u>with</u> and <u>without</u> intelligence impairment** People with autism spectrum disorders should be regularly asked what their wishes, needs and expectations are with regard to care in their various areas of life. If the person with an autism spectrum disorder cannot express this themselves, as well as in the case of children and adolescents, guardians, relatives and other caregivers should be asked regularly. Expectations should be taken into account not only with regard to the individual therapy goals and content, but also with regard to the framework conditions for treatment and care; here, for example, regular structures (time, place and persons) as well as a low-stimulus environment should be mentioned. The success of treatment or care should not only be measured by improvements in autistic core characteristics, but also by an improvement in life satisfaction (e.g. reduction of anxiety, increase in well-being, successful integration into social structures, educational/vocational contexts) and reduction of comorbiddisorders. The provision of care in the various areas of life (kindergarten, school, work, housing, leisure, health care, etc.) should, if there is an indication for appropriate measures, come closer to the wishes, needs and expectations of people with autism spectrum disorder. The persons affected or their guardians should be involved in the planning of care in a participatory approach. **Adolescents <u>without</u> intelligence impairment**

	There are indications that for adolescents with autism spectrum disorder, therapy goals that deal with social skills in contact with peers and successful completion of school are particularly important. **Adults <u>with</u> and <u>without</u> intelligence impairment** In compliance with the Basic Data Protection Regulation, psychotherapists, doctors, social services and youth welfare offices as well as the Employment Agency should provide alternative ways of making appointments in writing in order to reduce barriers to accessing care structures.
	Strong consensus (>95% agreement)

Statement 1: C.2.2 Expectations of care (consensus-based)

	Key question TSF 3: What expectations do patients, parents/guardians/caregivers have of care?
KKP	**Results of a survey of adults <u>without</u> intelligence impairment** With regard to psychotherapy in adulthood, not only therapy goals in the area of the "autistic core symptoms" are relevant for those affected. Adults with an autism spectrum disorder rate the following competencies to be taught in psychotherapy as important or very important: coping with stress, social competence and finding one's identity. With regard to the therapists, they find sound disorder-specific knowledge as well as overarching therapist characteristics such as approachability, acceptance and benevolence as well as appropriate communication important to very important. **All ages <u>with</u> and <u>without</u> intelligence impairment** *Expectations of care* is a relatively unexplored area with rudimentary studies, where further research should be conducted.
	Strong consensus (>95% agreement)

C. 3 Structure of care and qualification of therapists

Recommendation 5: C.3.1 Factors facilitating access to health care (consensus-based)

	Key Question TSF 4: What factors facilitate access to health care for people with autism in Germany? Key question TSF 5: What competences and qualifications should therapists bring with them?
KKP	Diagnostic and differential diagnostic clarification should be carried out promptly. Financing of diagnostics and therapy should be ensured. Specialised centres should offer diagnostics (see Diagnostics Guideline p. 130f.). If a specialist centre has made the diagnosis (or in the case of pre-school children also the suspected diagnosis) of autism spectrum disorder, this is sufficient for the initiation of intersectoral care measures.
	Strong consensus (>95% agreement)

Recommendation 6: C.3.2 Supply structure (consensus-based)

	Key Question TSF 4: What factors facilitate access to health care for people with autism in Germany? Key question TSF 5: What competences and qualifications should therapists bring with them?
KKP	Ensure that people with autism spectrum disorders have timely access to necessary somatic and psychiatric-psychotherapeutic health care and psychosocial support (see Section C.10 Involvement of families, relatives, schools and employers) regardless of their cognitive abilities or other diagnoses. **Case management:** If care measures are indicated or necessary, these measures should be coordinated, networked and agreed upon by one source in order to avoid gaps, duplications, ineffective or even harmful interventions. Since several support systems are often involved, especially in childhood and adolescence, this coordination is particularly important here. Case management should only be carried out by a licensed specialist (specialists in child and adolescent psychiatry and psychotherapy, specialists in psychiatry and psychotherapy, paediatricians and adolescent doctors specialising in autism

spectrum disorders, child and adolescent psychotherapists, psychological psychotherapists). In particular, transition phases (e.g. nursery school-school, primary school-secondary school, school-job) should be accompanied and regular follow-up diagnostics regarding autism spectrum symptoms and comorbid disorders should be ensured

People with autism spectrum disorder and their families should be offered the evidence-based interventions outlined in this guideline when indicated. They should be provided with detailed and understandable information about treatment options, support options, legal requirements and eligibility. There should be a shared decision-making process that takes into account the needs and preferences of people with autism spectrum disorder and, in the case of children and young people, their guardians.

In the case of children and adolescents, the risks and benefits of a particular therapy or supportive measure, as well as the time limit, should be discussed in detail with the parents or guardians (and, depending on the age, with the child/adolescent). This also includes discussing whether the treatment is suitable for the whole family, including siblings, so that an informed decision can be made.

The procedure for adults should be similarly individualized and appreciative, taking into account the independence and, if necessary, care situation of the person with autism spectrum disorder.

In principle, it should be planned together how progress can be evaluated in order to be able to assess the success of the therapy or supportive measure.

Access to care and treatment should be based on the needs of those affected, not on the responsibility of payers.

Basically, specific therapy goals as well as the methods to achieve these goals should be determined in each case and the achievement of the therapy goals should be reviewed. After therapy goals have been achieved, therapies and supportive measures should be terminated in a planned manner in order to increase the independence of people with autism spectrum disorder.

Autism spectrum disorders start in early childhood and usually persist over the lifespan, therefore the transition from care in childhood and adolescence

	to care in adulthood is of central importance. The different payers of child and adult care, different criteria for eligibility for the care systems, but also insufficient knowledge about the disorder are associated with the risk that affected persons are "lost" in the health care system or are not adequately cared for. This risk exists especially for affected persons with high-functioning autism spectrum disorders in crucial stages of life, e.g. at the age of 6 and 18 (transition of responsibility from SGB XII to SGB VIII and vice versa). These age phases are associated with an increased susceptibility (vulnerability) to concomitant/comorbid disorders, but also with the opportunity to build up resilience factors in this phase of life (e.g. practical life skills, perspectives, independence). Against this background, affected persons should have access to psychotherapeutic care according to SGB V if required. If case management has to change from one case manager to another, a handover of all information should take place and cooperation between the relevant institutions should be established. The following factors can further reduce barriers to accessing health care: – written appointment; – Minimise waiting situations (e.g. allocation of marginal appointments), allow waiting outside the practice or in an extra room; – Consideration of the thinking and perception peculiarities in the practice organisation (e.g. installation of visual signposts).
KKP	Recommendation for research: To date, there have been no adequate studies on the care situation in Germany (with regard to medical-psychotherapeutic, rehabilitative and educational services). Therefore, the recording and evaluation of the care situation in Germany is required in order to analyse the care paths, barriers, time and accessibility of specialised facilities with regard to therapy and to develop proposals for better care.
	Strong consensus (>95% agreement)

Recommendation 7: C.3.3 Therapist competencies (consensus-based)

	Key Question TSF 4: What factors facilitate access to health care for people with autism in Germany? Key question TSF 5: What competences and qualifications should therapists have?
KKP	The evidence-based methods outlined in this guideline include medication and psychosocial interventions, although with regard to the latter, different behavioural therapy-practice methods appropriate to skills and individual development are particularly effective. All health and social care professionals working with people with autism spectrum disorders should therefore have the following competencies: 1. Sound, scientifically based knowledge of autism spectrum disorder and the needs of patients and their families; 2. Knowledge of the possibilities and indications of drug therapy; 3. Knowledge of the possibilities and indications of day-care or inpatient treatment; 4. Developmental psychology, scientifically based knowledge, especially with regard to working with children and adolescents; 5. Sound and practical skills in the various behavioral therapy methods that are effective; 6. Sound and practical skills of exercises as well as structuring measures that can be used effectively to achieve specific therapy goals. Supervision: All therapists should be regularly supervised with regard to the correct implementation of effective therapy procedures by appropriately experienced, licensed therapists or in consultation with case management. The correct implementation of the effective therapy procedures in the daily therapeutic routine should be checked regularly. Physicians should also be familiar with the effective medicinal and other biological therapy methods with regard to their exact target symptomatology, have sound practical experience in the use of effective medicinal methods and be aware of the spectrum of undesirable effects.

Competencies of the individuals and team providing case management:

In a multidisciplinary team or network, a licensed specialist should be responsible for case management. The overall team/network working in case management should have the following competences:

Case management children and adolescents

- Sound practical skills in the use of specific diagnostic instruments (see Chapter B.7 of the Diagnostic Guideline: Progressive Diagnostics);
- Differential diagnostic skills regarding all psychiatric and somatic comorbidities;
- Skills in the performance and correct interpretation of an internal medicine neurological examination;
- Skills in test psychology, especially language development and cognitive development (as relevant prognostic factors) as well as sensorimotor development, if required;
- Skills in professional counseling regarding all therapeutic, educational, and social issues as well as the evidence-based interventions identified in this guideline.

Adult case management

- clinical diagnostic skills (see Chapter B.7 of the Diagnostic Guideline: Progressive Diagnosis);
- Differential diagnostic skills regarding all psychiatric and somatic comorbidities;
- Skills in the performance and correct interpretation of an internal medicine neurological examination;
- Skills in test psychology examination of cognitive performance abilities;
- Skills in professional counselling in relation to therapeutic, occupational and social issues and the evidence-based interventions referred to in this guideline.

	Strong consensus (>95% agreement)

Recommendation 8: C.3.4 Qualification and training aspects (consensus-based)

	Key Question TSF 4: What factors facilitate access to health care for people with autism in Germany? Key question TSF 5: What competences and qualifications should therapists have?
KKP	With regard to the establishment of a training structure for therapists, through which in particular the necessary behavioural therapy-practical interventions are taught, the guideline group sees a high need for action. Within established training structures (specialist training for child and adolescent psychiatry and psychotherapy, specialist training for psychiatry and psychotherapy, training for medical psychotherapy, psychotherapy training for child and adolescent as well as psychological psychotherapists), evidence-based, current, scientifically-founded knowledge and practical experience of autism spectrum disorders should be conveyed in a well-founded manner and in the necessary breadth. In the training of other professions that often work with people with autism spectrum disorders (such as social work, (remedial-) education, occupational therapy, speech therapy, health and nursing care, curative education, integration and work assistance), current, scientifically based principles of the disorder should also be taught. Individuals who provide psychosocial interventions for people with autism spectrum disorder should be or become qualified in the following training content: Qualified training in the therapeutic interventions whose effectiveness has been proven (see the following chapters) should be available to all staff of institutions involved in the therapy and support of people with autism spectrum disorder. In particular, employees should be well trained with regard to the following aspects:

	– scientifically sound knowledge of the autism spectrum disorders, the etiological background, important comorbid mental and physical illnesses and differential diagnoses; – scientifically founded knowledge of effective therapy and support methods (including medicinal support) as well as concrete therapy planning or planning of targeted support; – Master basic behavioral therapy approaches and techniques; – Mastery of indicated goal-directed interventions for the appropriate age range and cognitive developmental level of the person with autism spectrum disorder and, in the child and adolescent setting, parent-based intervention options; – Professionals should be able to carry out a differentiated behavioural analysis in order to be able to identify triggering factors in the presence of challenging behaviour. Within the framework of the training, a therapeutic attitude is to be imparted that is characterised by appreciation, empathy, respect, congruence, development-, goal-, solution- and resource orientation, as well as by commitment, perseverance and knowledge regarding the individual possibilities and limits of what can be achieved. As a further important competence, the ability to cooperate with all other parties involved is to be imparted, which is necessary to ensure multidisciplinary treatment.
	Strong consensus (>95% agreement)

C. 4 Therapies to improve autism-specific symptoms

C. 4.1 Which exact symptoms are important target symptoms of therapy for long-term improvement of autism-specific core symptomatology?

Area A: Social interaction and communication

The main symptoms of impairment in social interaction and communication across the lifespan are captured in the numerous screening and diagnostic tools that are detailed in Part B Diagnostics of this guideline (AWMF, 2016a). Fundamentally, in autism spectrum disorders, across all age ranges, reciprocal social interaction as well as verbal and nonverbal communication, especially with peers, but usually also with parents, superiors, teachers, etc., are significantly impaired. The restriction in the social-communicative area may not be fully explained by an intelligence reduction or language development disorder. Limitations in social interaction here include limitations in social perception, social motivation, and social cognition, which have been reported in numerous studies across the lifespan in ASD.

The therapy of social interaction and communication in toddlers, preschoolers, and to some extent also in elementary school is carried out through the systematic development of developmentally age-appropriate precursor skills. A detailed German account of development in toddler and preschool age as well as essential precursor skills to be promoted can be found in Teufel, Wilker, Valerian & Freitag (2017). The recommendations therefore specifically address well-studied precursor skills.

Domain B: Restrictive, repetitive behaviours, interests and activities

The main symptoms of the domain of restrictive, repetitive behaviours, interests and activities across the lifespan are captured in the numerous screening and diagnostic instruments that are detailed in Part B Diagnostics (AWMF, 2016a) of the present guideline. In addition, there are questionnaires, such as the *Repetitive Behavior Scale - Revised* (RBS-R; Bodfish, Symons, Parker & Lewis, 2000; Kästel et al., 2020; Lam & Aman, 2007), in which symptoms are broadly captured. Numerous studies have described a differentiation of behaviours into two distinct scales, namely repetitive, sensory and motor behaviours, as well as an insistence on consistently following the same routines, including rigidity, routines and restricted interests across the lifespan (Lord, Bishop & Anderson, 2015; Mooney, Gray, Tonge, Sweeney & Taffe, 2009; Uljarević et al., 2017). Overall, restrictive, repetitive behaviors, interests, and activities decrease across the lifespan; however, there appears to be a subgroup with a verbal IQ < 70 in which insistence on the same routines over and over again increases

in particular (Lord et al., 2015). Restrictive, repetitive behaviors, interests, and activities must be distinguished psychopathologically and by behavioral observation from obsessive-compulsive symptoms. The latter are symptoms of a comorbid obsessive-compulsive disorder, the treatment of which is described in Section C. 7.5 Obsessive-compulsive disorder When assessing whether special interests in particular are disturbing, both the perspective of the person affected and that of the environment should be considered. It is also important to remember that the meaning and usefulness of special interests to the sufferer cannot be judged with certainty by outsiders. The basis of the assessment should be whether the special interests are harmful to the persons concerned themselves or to the environment in the short or long term.

The therapy of stereotyped behaviours in toddler- preschool and partly still in primary school age is also carried out through the systematic development of the following developmental age-appropriate skills, which are also essential for the promotion of social interaction and communication: Attention control, promotion of motor exploration and visuomotor skills, promotion of play behavior at all levels (sensorimotor, combinatorial, symbolic), expansion of play interests and play partners (Teufel et al., 2017). In school, adolescence and adulthood, too, the focus should be on building up competence in functional, practical everyday behaviour and promoting functional interests with regard to stereotypical behavioural patterns.

C. 4.2 Social interaction and communication

Recommendation 9: C.4.2.1 Social interaction and communication therapy; 4.2.1 Suspected autism spectrum disorders in young children and preschoolers (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	In young -children and preschoolers, autism-specific therapy should be carried out even if the presence of an autism spectrum disorder is suspected. After 12 months at the latest, the diagnosis should be reviewed again before therapy is continued.
	Strong consensus (>95% agreement)

Recommendation 10: C.4.2.2 Autism-specific psychosocial therapies for young children and preschoolers (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Evidence level: **2** Recommendation grade: **A**	**Young children and preschoolers, regardless of developmental age and cognitive skills.** Autism-specific therapy should be carried out early, at the latest from the age of 2 years or directly after diagnosis.
Evidence level: **2** Recommendation grade: **A**	Individualized, developmental, behavioral therapy based on scientifically reviewed therapy manuals shall be provided with the child including guidance to parents/primary caregivers regarding beneficial parent-child interactions.
Evidence level: **2** Recommendation grade: **A**	Duration [2] The therapy should be carried out for at least one year.
Evidence level: **2-3** Recommendation grade: **A**	Frequency (intensity) Therapy with the child or with parents and child should take place for at least 2 hours per week. In addition, parents/primary caregivers should actively interact and practice with the child in everyday life at home.
Evidence level: **2** Recommendation grade: **A**	Setting Therapy shall include individualized parent-child therapy in which parents are instructed to interact with the child in a nurturing manner at home, and

[2] The recommendation on duration has been split into an evidence-based recommendation and a consensus-based recommendation. The consensus-based recommendation follows below this table, but would follow directly after this table row for content purposes.

Evidence level: **2** Recommendation grade: **A**	therapy should include specific, individualized exercises with the child to build and practice new social-interactive, communication, language, cognitive, and daily living skills.
Evidence level: **2-3** Recommendation grade: **A**	These exercises with the child should be carried out with the involvement of the parents/primary caregivers either in a therapeutic institution or, if the spatial and staffing conditions there are appropriate, in the kindergarten. and/or the parents/primary caregivers should be systematically guided by professional therapists in a therapeutic setting or at home to implement the exercises with the child at home. If it is mainly the parents who implement the exercises at home, the parents should be instructed in direct interaction with the child; exclusive parent training is not sufficient. On the other hand, regular video feedback should be provided by trained therapists regarding the correct implementation of the exercises at home. When planning the implementation at home, attention should also be paid to the parental burden of the therapy as well as the parents' skills in the correct implementation of the exercises, parental synchronicity and responsiveness as well as a positive affect of the parents in dealing with the child.
Evidence level: **2-3** Recommendation level: **0**	The therapy with child and parents can be supplemented by a psychoeducational group for the parents.
Evidence level: **3** Recommendation level: **0**	Child therapy can also be provided in a small group with one or two other children with autism spectrum disorder as the child's skills increase.
Evidence level: **3-4** Recommendation grade: **B**	Educators in the kindergarten as well as integration assistants should be instructed in the supportive handling of the child.

Evidence level: **2-3**
Recommendation grade: **A**

Essential therapy contents

Therapy should include the following essential aspects and content to be used according to published, reviewed therapy manuals:

1. At the beginning, the child's skills should be assessed in as standardised a manner as possible in order to be able to provide developmental support that is appropriate to the child's current skills. The support should be aimed at concrete skills that build on each other in the development.
2. The child's motivation, interests and needs should be given considerable attention during therapy, and over- or under-challenging should be avoided.
3. The needs of the family should be considered in the treatment planning.
4. Therapy should include training parents in parental synchronicity and responsiveness to the child's interests and activities, as well as parental positive affect in interactions with the child.
5. Therapy should include training the child in joint attention, imitation, functional and symbolic play. The development of skills should initially be guided in a structured way and then increasingly left to the child's own initiative.
6. Therapy is designed to promote the child's self-initiated nonverbal and verbal communication through positive and natural reinforcement of each communicative utterance of the child.

Therapy should include exercises for the child regarding developmentally age-appropriate action planning, emotion expression and emotion regulation, and daily living skills.

Essential therapy methods

Therapy should use the following therapy methods according to published, reviewed therapy manuals:

	1. All exercises for the child should be developed in such a way that they can be implemented and practiced in situations that are as natural, social and close to everyday life as possible, in order to promote the generalization of what has been learned. 2. Techniques should be used to promote the child's motivation and initiative, enabling the child to learn independently. 3. In addition to the promotion of developmentally age-appropriate play and functional exercises, scientifically tested behavioural therapy techniques are to be used in particular. Behavioural development via reinforcement (operant conditioning) should take place with natural, preferably social reinforcers in a natural social context. Prompting and reinforcers should be used in a differentiated manner and also quickly phased out. Social learning should be specifically promoted. 4. Parents should receive regular, structured feedback on the correct implementation of exercises and behavior therapy techniques in everyday life, such as direct feedback in therapy or video-based feedback. 5. If support is provided in the small group of children with autism spectrum disorder, the above therapy methods should also be used. The focus should be on developmentally appropriate exercises that all children can master. Each child should be given special attention and guided in interacting with the other child(ren).
Evidence Level: **2-3** Degree of Recommendation: **A-B**	**Sources** : Due to the large number of underlying studies, please refer to the detailed discussion in the background text of this chapter (see long version) and the NICE children's guideline.
	Strong consensus (>95% agreement)

Recommendation 11: C.4.2.3 Length of autism-specific psychosocial therapy in young children and preschoolers (consensus-based) [3]

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Young children and preschoolers, regardless of developmental age and cognitive skills.** The therapy can be continued until the child is integrated into the (integrative) kindergarten or the (remedial) school. Goals can be, for example: – can approach other children on their own initiative and make contact in an age-appropriate manner, – learn to master basic skills of interactive play with other children and adults as well as (non)verbal communication with others – as well as acquire the motivation for social and self-initiative learning. [For the promotion of language: see Chapter C. 5.1 developmental speech and language disorder ; for the promotion of cognitive development and practical everyday skills: see Chapter C.C. 5.1 developmental speech and language disorder C.6 Cognitive and daily living skills]
	Strong consensus (>95% agreement)

[3] In terms of content, this recommendation belongs to the evidence-based recommendation above it, but is presented separately from it for formal reasons, as only a consensus-based recommendation was possible.

Recommendation 12: 4.2.2 Non-effective autism-specific psychosocial therapies in toddler, preschool and primary school age; regardless of developmental age and cognitive skills (evidence-based).

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Young children, preschoolers and primary school children, regardless of developmental age and cognitive skills. The following psychosocial therapies have been investigated in randomised controlled trials with overall good to adequate study quality and have been found to be not (sufficiently) effective in promoting social interaction as well as many other aspects, such as adaptive and cognitive skills, and should therefore not be used for this goal as more effective therapies (see above) are available: 1. Hanen: More Than Words, 2. Pure parent training, without involving the child (but see C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder), 3. Pure structuring measures without specific training of the child's interactive, communicative and everyday skills, 4. Improvisation-based individual music therapy as well as music therapy involving parents/family, 5. Isolated cognitive, computer or iPad-based training, 6. Auditory Integration Therapy, 7. Sensory integration therapy according to Ayres, 8. Equine therapy or other animal-assisted therapies, 9. Aided communication, 10. eclectic approaches.
Evidence Level: **2-3** Degree of Recommendation:	**Sources**: Due to the large number of underlying studies, please refer to the detailed discussion in the background text of this chapter (see long version) and the NICE children's guideline.

A	
	Consensus (>75-95% agreement)
Special Vote	**A special vote on this recommendation was submitted by the German Music Therapy Society. The professional society votes in favour of deleting the above-mentioned point 4 (negative recommendation on music therapy) from this recommendation. A detailed justification can be found on p. 36f of the guideline report.**

Recommendation 13: C.4.2.3 Autism-specific therapy for school-age children and adolescents with intellectual disabilities (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Schoolchildren and adolescents with intelligence impairment** Special attention should be paid to a clear daily structure as well as to development and competence-appropriate requirements within the framework of the support. In the case of primary school children with intelligence impairment, the above-mentioned recommended psychosocial intervention methods for promoting social interaction in young children and preschool children can be continued to a limited extent according to the child's respective stage of development in this area, with the formulation of clearly defined therapy goals, until clearly defined therapy goals are achieved. Therapy should be implemented in the small group setting. The parents/primary caregivers as well as the school should be involved. For the specific promotion of language in primary school children who have not yet developed any language or have developed very little language, see Recommendations section C. 5.1 developmental speech and language disorder .

	The older the children and adolescents with intellectual impairment become, the more the promotion of everyday practical skills and adaptive behaviour is in the foreground of the therapy as well as possible support offers (see recommendations chapter C.6 Cognitive and everyday practical skills). This support should take place within the framework of special needs education. For older children and adolescents, time-limited group therapy to promote social interaction, independent occupation, action planning and emotion regulation can be offered over 3-6 months according to the present stage of development of the group participants with autism spectrum disorder and intelligence reduction, with the involvement of parents as well as the school. Individual therapy to promote social interaction with peers should not be provided.
	Strong consensus (>95% agreement)
Special votes	**Identical special votes on this recommendation were submitted by the German Association for Behavior Therapy, the German Society for Behavior Therapy, and Autismus Deutschland:** In addition to individual therapy, the promotion of social interaction should also be implemented in a group format and with the involvement of parents/primary caregivers as well as the school, if possible and appropriate. *The rationale for the special vote can be found on p. 38ff of the guideline report.*

Recommendation 14: C.4.2.4 Autism-specific psychosocial therapy for schoolchildren and adolescents without intelligence impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Schoolchildren and adolescents <u>without</u> intelligence impairment School children and adolescents without intelligence impairment should be offered a time-limited, manualized, scientifically reviewed group therapy for the promotion of social interaction with peers in the context of a closed (fixed) group for 3-6 months. Parents/primary caregivers should be informed about the therapy contents and should support the implementation of homework in everyday life. <u>Setting:</u> group therapy in a group of peers with autism spectrum disorder; approx. 4-5 children or adolescents and two therapists, usually at the therapeutic facility; additionally 2-3 parent information evenings. Duration<u>:</u> 12-18 double lessons, each 90 min per week. <u>Content of therapy:</u> – Promotion of group ability through clear, jointly established group rules, – Education/discussion about autism spectrum disorders, – Picking up on everyday situations of the children and young people, – Taking up the therapy wishes of the children and adolescents, – Training in greetings, small talk, conversation techniques including smiling, volume, proximity-distance regulation, responding to the other person's remarks, – Training in the recognition of one's own and others' desires and feelings, – Training in socializing with peers and building and maintaining friendships, – Training of interactive play or shared activities with peers,

	– Action planning training, – Training in emotion regulation, dealing with conflicts. <u>Therapy methods</u> – Guided discussion rounds; introduction of individual topics of the group participants, – Knowledge transfer/psychoeducation regarding the condition of an autism spectrum disorder as well as (unwritten) social rules, – Social and model learning using role play and video feedback, – Operant methods to promote motivation and rule compliance in the group, – Elements of acceptance and commitment therapy, – Regular practice with homework, – Parent coaching to promote the implementation of homework in everyday life.
Evidence Level: **1-2** Degree of Recommendation: **A**	**Sources** : Freitag et al. (2016); Reichow, Barton, Boyd & Hume (2012) ; Dolan et al, 2016; Frankel et al, 2010; Hiruma, 2014; Kenworthy et al, 2014; Laugeson, Frankel, Gantman, Dillon & Mogil, 2012; Laugeson, Frankel, Mogil & Dillon, 2009; Schohl et al, 2014; Yoo et al, 2014.
	Strong consensus (>95% agreement)
Special votes	**Identical special votes on this recommendation were submitted by the German Association for Behavior Therapy, the German Society for Behavior Therapy, and Autismus Deutschland:** There is a wide range of therapeutic approaches available, but mostly only very time-limited group formats have been investigated in RCT studies. These have shown a certain additional benefit and should be part of the treatment, if possible in addition to individual therapy and parental or institutional counselling. Recommendation 47 in the present guideline: "In therapies, it should be taken into account that many patients with ASD first need a longer therapeutic relationship-building period and that the implementation of the therapeutic learning

	content in everyday life is often made more difficult by the reduced generalization ability and reduced flexibility." must be taken into account in any intervention with people with ASD. *The rationale for the special vote can be found on p. 38ff of the guideline report.*

Recommendation 15: C.4.2.5 Alternative solution of individual therapy for school children and adolescents without intelligence impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Schoolchildren and adolescents <u>without</u> intelligence impairment** If group therapy does not seem feasible for organisational or individual reasons, the therapy contents described above from group therapy can also be taught in a time-limited individual therapy. However, in this case, numerous exercises and homework should be used to generalize the acquired skills in everyday life, and parents should encourage the implementation of these exercises in everyday life.
	Consensus (>75% - 95% agreement)

Recommendation 16: C.4.2.6 Autism-specific psychosocial therapy for adults with intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults with intelligence impairment** For adults with intellectual impairment, the promotion of everyday practical skills and adaptive behaviour is at the forefront of therapy as well as possible support services (see recommendations section C.6.2 Everyday practical skills and adaptive behaviour). This should be the focus of intervention within the framework of structured employment offers. A time-limited, daily, approx. 1-hour group therapy for the promotion of social interaction, independent occupation, action planning including leisure activities and emotion regulation according to the present stage of development of the group participants with autism spectrum disorder and intelligence reduction over approx. 6 months with the involvement of essential caregivers (parents, caregivers, etc.) can also be offered. Individual therapy to promote social interaction should not be provided. In the absence of group ability, individual therapy may be offered to promote group ability.
	Consensus (>75% - 95% agreement)
Special votes	**Identical special votes on this recommendation were submitted by the German Association for Behavior Therapy, the German Society for Behavior Therapy, and Autismus Deutschland:** In addition to individual therapy, the promotion of social interaction should also be implemented in a group format and with the involvement of primary caregivers, if possible and appropriate. *The rationale for the special vote can be found on p. 42 of the guideline report*.

Recommendation 17: C.4.2.7 Autism-specific psychosocial therapy for adults without intelligence impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Adults <u>without</u> intelligence impairment Adults without intelligence impairment are to be offered a 3-6 month, manualised, scientifically tested group therapy to promote social interaction within the framework of a closed (fixed) group. <u>Setting:</u> group therapy for adults with autism spectrum disorder; approximately 6-8 adults and two therapists, usually in therapeutic setting. Duration<u>:</u> 12-18 double lessons, each 90 min per week. <u>Content of therapy:</u> – Promotion of group ability through clear, jointly established group rules, – Education/discussion about autism spectrum disorder including identity issues, – Picking up on everyday situations of adults, – Taking up the therapy wishes of the adults, – Training in greetings, small talk, conversation techniques including smiling, volume, proximity-distance regulation, responding to the other person's remarks, – Training in the recognition of one's own and others' desires and feelings, – Training in socializing and building and maintaining friendships, – Training in dealing with desires regarding an intimate relationship and sexuality; adequate contact and contact management, – Training of joint activities with peers, – Action planning training, – Training in dealing with stress and feelings of loneliness, – Training in emotion regulation, dealing with conflicts.

	Therapy methods – Guided discussion rounds; introduction of individual topics of the group participants, – Knowledge transfer/psychoeducation regarding autism spectrum disorders as well as (unwritten) social rules, – Social and model learning using role play and video feedback, – Operant methods to promote motivation and rule compliance in the group, – Elements of acceptance and commitment therapy, – Regular practice with homework.
Evidence Level: **2** Degree of Recommendation: **A**	**Sources**: Gantman, Kapp, Orenski & Laugeson, 2012; Laugeson, Gantman, Kapp, Orenski & Ellingsen, 2015; McVey et al., 2016.
	Strong consensus (>95% agreement)
Special votes	**Identical special votes on this recommendation were submitted by the German Association for Behavior Therapy, the German Society for Behavior Therapy, and Autismus Deutschland:** A variety of therapeutic approaches are available, but mostly only very time-limited group formats have been investigated in RCT studies. These have shown some additional benefit and should, if possible, be part of the treatment alongside individual therapy. *The rationale for the special vote can be found on p. 43 of the guideline report.*

Recommendation 18: 4.2.8 Imitation-based dance/movement therapy for adults without intelligence impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?

	Adults <u>without</u> intelligence impairment For adults without intelligence impairment, imitation and synchronization-based dance/movement therapy- in a group to promote synchronicity can be offered over 8-10 hours á 90 min to promote non-verbal imitation and social interaction.
Evidence Level: **2-3** Degree of Recommendation: **0**	**Sources**: Koch, Mehl, Sobanski, Sieber & Fuchs, 2015; Koehne, Behrends, Fairhurst & Dziobek, 2016; Mastrominico et al., 2018.
	Strong consensus (>95% agreement)

Recommendation 19: C.4.2.9 Alternative solution of individual therapy for adults without intelligence impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults <u>without</u> intelligence impairment** If group therapy does not seem feasible for organisational or individual reasons, the therapy contents from group therapy described above can also be taught in a time-limited individual therapy to promote social interaction. However, in this case, exercises and homework should be used to generalize the acquired skills in everyday life, and support persons from the adults' personal circle should promote the implementation of these exercises in everyday life.
	Consensus (>75-95% agreement)

Statement 2: C.4.2.10 Psychosocial therapy to promote social interaction and communication in all age ranges, all cognitive skills - adverse effects (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Children, adolescents and adults, regardless of cognitive skills In the case of psychosocial interventions, no undesirable effects have been reported to date if they are carried out correctly, although they have rarely been systematically investigated.
Evidence Level: **1-3**	**Sources**: Due to the large amount of literature reviewed, please refer to the detailed discussion in the background text of this chapter (see long version) and the NICE children's guideline.
	Strong consensus (>95% agreement)

Recommendation 20: C.4.2.11 Medication therapy for social interaction and communication in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** Since there is currently no drug therapy that leads to an improvement in social interaction and communication, psychotropic or other drugs should *not be* used with regard to this therapeutic goal.
	Strong consensus (>95% agreement)

Recommendation 21: C.4.2.12 Drug therapy for comorbid symptoms in children, adolescents and adults without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults without intelligence impairment** The drug treatment of a comorbid activity and attention disorder (see section C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour) and - if severe - of stereotypic and repetitive (see section C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour (ADHD) C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour C.4.3 Repetitive behaviour, special interests and sensory hyper/hyporeactivity C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder) as well as oppositional or aggressive behaviour (see Chapter C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder) or a comorbid anxiety disorder (see Chapter C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder C. 7.3 Anxiety disorders) or depressive episode (see Chap. C. 7.4 Depressive episodes, recurrent depressive disorder) may be helpful in enabling participation in group therapy.
	Strong consensus (>95% agreement)

Recommendation 22: C.4.2.13 Other therapies for the treatment of social interaction and communication in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?

KKP	**Children, adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** Since there is currently no robust evidence that any additional therapy methods beyond psychosocial therapies lead to an improvement in social interaction and communication, other therapy methods that go beyond the above-mentioned recommendations (including nutritional supplements, dietary changes, cleansing therapies, immunotherapies, etc.) should not be used with regard to this therapy goal. Other therapeutic procedures should not be used without corresponding proof of an additional benefit. See also summary of ineffective therapies in NICE child and adult guidelines.
	Strong consensus (>95% agreement)

C.4.3 Repetitive behaviour, special interests and sensory hyper/hyporeactivity

Recommendation 23: C.4.3.1 Psychosocial therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in young children and preschool children, with and without intelligence impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Evidence level: **1-2** Recommendation grade: **A**	**Young children and preschoolers, regardless of developmental age and cognitive skills.** The above therapy techniques used to promote social interaction and communication should also be used to improve repetitive behavior, disruptive special interests, and sensory hyper- or hyporeactivity. In particular, those procedures that promote parental synchronicity and responsiveness, as well as specifically practice interactive, child-directed play, including symbol play, and the expansion of the child's interests should be used.
Evidence level: **2** Recommendation grade: **B**	Parents should receive individualized and systematic guidance from trained behavioral therapists. Based on concrete behavioural analyses regarding specific situations of repeated disruptive repetitive behaviour, special interests and sensory hyper- or hyporeactivity in the home setting, parents should be specifically instructed in the use of various techniques. These should include aspects such as structuring daily life to avoid disruptive stimuli, extinguishing by ignoring, building alternative behaviors, and the targeted use of child- and developmentally appropriate exposure procedures.
Evidence level: **2-3** Recommendation level: **0**	If sensory hyper- or hyporeactivity is severe, regular exposure to different sensory stimuli (music, touch, smell, surfaces, bathing/water, etc.) guided by trained behavioral therapists can be added by parents at home.

Evidence Level: **2-3** Degree of recommendation: **see above.**	**Sources**: Aldred, Green & Adams, 2004; Bearss et al, 2015; Freitag et al, 2020; Grahame et al, 2015; Green et al, 2010; Pickles et al, 2016; Silva et al, 2015; Woo, Donnelly, Steinberg-Epstein & Leon, 2015.
	Consensus (>75% - 95% agreement)

Recommendation 24: C.4.3.2 Psychosocial therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in school-age children and adolescents, with and without intelligence impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**School children and adolescents, regardless of developmental age and cognitive skills.** The above therapy techniques used to promote social interaction and communication can also be used to improve repetitive behavior, disruptive special interests, and sensory hyper- or hyporeactivity. The parents/guardians as well as integration aides or special educators in schools should additionally receive individualized and systematic guidance from trained, regularly supervised or licensed behavioral therapists. Based on concrete behavioural analyses regarding specific situations of repeated disruptive repetitive behaviour, special interests and sensory hyper- or hyporeactivity in the home setting or at school, parents/guardians should be specifically instructed in the use of various techniques. These should include aspects such as structuring daily life to avoid disruptive stimuli, extinction by ignoring, building alternative behaviors, and the targeted use of child- and developmentally appropriate exposure procedures. If sensory hyper- or hyporeactivity is severe, regular exposure to different sensory stimuli (music, touch, smell, surfaces, bathing/water, etc.) guided by trained behavioral therapists can be added by parents at home.

	Consensus (>75% - 95% agreement)
Special votes	**Identical special votes on this recommendation were submitted by the German Association for Behavior Therapy, the German Society for Behavior Therapy, and Autismus Deutschland:** To improve repetitive behavior, disruptive special interests, and sensory hyper- or hyporeactivity, individualized methods should be used that may involve caregivers. In addition to individual therapy, group therapy may also be a component of the overall treatment plan. *The rationale for the special vote can be found on p. 43 of the guideline report.*

Recommendation 25: C.4.3.3 Psychosocial therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in adults with intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults with intelligence impairment** Parents/caregivers/trainers/integration assistants or other persons who have regular contact with the adult person with autism spectrum disorder in everyday life are to receive individualized and systematic guidance from trained behavioral therapists. Based on concrete behavioural analyses regarding specific situations of repeated disruptive repetitive behaviour, special interests and sensory hyper- or hyporeactivity at home, at work or in the residential group, different techniques shall be used in a targeted manner, including aspects such as structuring everyday life to avoid disruptive stimuli, extinction by ignoring, building up alternative behaviours as well as the targeted use of individually appropriate exposure procedures.
	Strong consensus (>95% agreement)

Recommendation 26: C.4.3.4 Psychosocial therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in adults without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults without intelligence impairment** The above group-based therapies used to promote social interaction and communication can also be used to improve repetitive behavior, disruptive special interests, and sensory hyper- or hyporeactivity.
	Strong consensus (>95% agreement)

Special votes	**Identical special votes on this recommendation were submitted by the German Association for Behavior Therapy, the German Society for Behavior Therapy, and Autismus Deutschland:** Individualized methods should be used to improve repetitive behavior, disruptive special interests, and sensory hyper- or hyporeactivity. In addition to individual therapy, group therapy may also be a component in the overall treatment plan. *The rationale for the special vote can be found on p. 44 of the Guideline Report.*

Recommendation 27: C.4.3.5 Psychosocial therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in all age ranges, all cognitive skills - adverse effects (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults, regardless of cognitive skills** In the case of psychosocial interventions, no undesirable effects have been known to date if they are carried out correctly, although they have also rarely been systematically investigated. From the perspective of Aspies e.V., there are situations in which exposure does not lead to desensitization, but to mere habituation to endurance, which costs strength and resources.
	Strong consensus (>95% agreement)

Recommendation 28: C.4.3.6 Drug therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in children and adolescents, with and without intellectual impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Children and adolescents, regardless of cognitive skills In patients with severe stereotypic and repetitive behaviors, the temporary administration of the antipsychotics risperidone or aripiprazole may be considered in addition to psychosocial interventions, weighing the spectrum of desirable and undesirable effects. Based on the evidence to date, a recommendation for the use of additional substances (e.g., SSRIs) for the treatment of stereotypic and repetitive behaviors is not possible.
Evidence Level: **1** Recommendation level: **0**	**Sources**: Hirsch & Pringsheim, 2016; McDougle et al, 2005; Owen et al, 2009; Shea et al, 2004.
	Strong consensus (>95% agreement)

Recommendation 29: C.4.3.7 Drug therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in adults, with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults, regardless of cognitive skills** In patients with severe stereotypic and repetitive behaviours, the temporary administration of antipsychotics such as risperidone or aripiprazole may be considered as a complement to psychosocial interventions, taking into account the spectrum of desirable and undesirable effects. Based on the evidence to date, it is not possible to recommend the use of other substances (e.g. SSRIs) for the treatment of stereotypic and repetitive behaviours.
	Strong consensus (>95% agreement)

Statement 3: C.4.3.8 Drug therapy for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in all age ranges, all cognitive skills - adverse effects (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Children, adolescents and adults, regardless of cognitive skills Antipsychotics can lead to numerous metabolic and cardiological adverse effects including weight gain as well as extrapyramidal motor symptoms and hyperprolactinaemia (for details see section C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder).
Evidence Level: 1	**Sources**: Hert, Dobbelaere, Sheridan, Cohen & Correll (2011), Correll & Kane (2007).
	Strong consensus (>95% agreement)

Recommendation 30: C.4.3.9 Other therapies for the treatment of repetitive behaviour, disruptive special interests and sensory hyper- or hyporeactivity in children, adolescents and adults, with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults, regardless of cognitive skills** Currently, no therapies or interventions beyond the above-mentioned psychosocial and medicinal approaches can be recommended. In no case should procedures involving direct punishment or coercive measures be used to treat stereotypic behaviors, special interests, or sensory hypo- or hyper-reactivity. See also above chap. C. 4.2 Social interaction and communication and the summary of ineffective therapies in NICE child and adult guidelines.
	Strong consensus (>95% agreement)

C.5 Specific comorbid developmental disorders

C. 5.1 developmental speech and language disorder

Recommendation 31: C.5.1.1 Promotion of language and verbal communication (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence?
Degree of Recommendation: **B**	**Children of toddler and preschool age with and without intelligence impairment** In toddlers and preschoolers, the language support for ASD should initially be based on the C. 4.2 Social interaction and communication , comprehensive, low-frequency (approx. 2 hours/week) psychosocial therapy methods can be used, which practice the following therapy goals using the natural learning format: Encouragement of the child's own initiative, training of basic principles of nonverbal communication (bring, interpret, show), of joint attention, of concept formation and symbol play, of linguistic and non-linguistic imitation, flexible practice of receptive language skills (vocabulary), natural reinforcement of spontaneous sounds (including stereotyped ones) and successive expressive language skills.
Level of Recommendation **A**	In therapy, attention should be paid to the generalization of skills at all levels (individual skill, contextual context, interaction partners). The setting should include therapist-based work with the child as well as intensive involvement and guidance of the parents so that learned skills can be generalized in everyday life.
Level of Recommendation **C**	Children who have difficulties in learning non-verbal communication principles in the context of the above-mentioned therapy and do not make sufficient linguistic progress can be given additional support to build up non-verbal and verbal communication by using picture cards or visual symbols combined with linguistic sounds (computer-based/speech output

	devices). The use of these must be practiced frequently and under the direct guidance of the child with various interaction partners. In addition, the therapy frequency/week can be increased for intensified practice of the above psychosocial therapy techniques. The picture cards and visual symbols serve as support ("prompt") and should be reduced immediately when the child begins to communicate using linguistic sounds and words to support the development of functional verbal language.
Level of Recommendation **C**	Children who do not learn enough language through the above-mentioned methods can be additionally supported through intensified imitation of sung and rhythmically accompanied words (drumming, clapping). The imitation by the child must be well guided and frequently repeated with different interaction partners.
Level of Recommendation **B**	Improvisation-based music therapy should not be used to promote speech.
Level of Recommendation **C**	**Children of primary school age who do not (yet) speak, with and without intelligence impairment** The above methods can be further applied to children of early primary school age with the aim that children of this age also learn to communicate verbally. If picture cards are used, further attempts should be made at the same time to stimulate verbal expressions.
Statement	**Non-speaking children from late primary school age, adolescents and adults** There are insufficient studies to make an evidence-based recommendation; a consensus-based recommendation (see below) is made.

Level of Recommendation **A**	**Therapy of pragmatic language problems in children and adolescents who have developed age-appropriate language (adults: see consensus-based recommendation)** Here, the effective group-based procedures for promoting social interaction and communication described in Chap. C. 4.2 Social interaction and communication presented in detail.
Level of Recommendation **A**	**Therapy of pragmatic language problems in children and adolescents who have developed age-appropriate language (adults: see consensus-based recommendation)** Here, the effective group-based procedures for promoting social interaction and communication described in Chap. C. 4.2 Social interaction and communication presented in detail.
Evidence Level: **1-3**	**Sources**: Almirall et al, 2016; Brignell et al, 2018a; Brignell et al, 2018b; Chenausky, Norton, Tager-Flusberg & Schlaug, 2016; Dawson et al, 2010; Geretsegger, Elefant, Mössler & Gold, 2014; Hardan et al., 2015; Kasari et al, 2014; NICE, 2013; Reichow, Hume, Barton & Boyd, 2018; Roberts et al, 2011; Schreibman & Stahmer, 2014; Wetherby et al, 2014.
	majority approval (50% - 75% approval)

Recommendation 32: C. 5.1.2 Promote non-verbal communication in non-speaking individuals with autism spectrum disorder from late primary school age (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence?
KKP	**Non-speaking children from late primary school age, adolescents and adults with and without intellectual impairment** If children, adolescents and adults do not learn to speak after correct and sufficiently long use of the above-mentioned therapy methods, a picture card system or also a device that outputs speech via visual symbols can be used to promote communication with other persons. Care must be taken to ensure that the devices are appropriate to the cognitive developmental level of the person with ASD and do not overwhelm the person in terms of the complexity of the device. The person with ASD must be systematically guided in the communicative use of the picture cards or the device. Special care should be taken to ensure that the focus is on "spontaneous utterance". In addition, it should be regularly checked that the person also selects the symbols appropriately. Picture cards and speech support devices should be responded to in the same way by all interaction partners (e.g., teachers, parents, siblings) so that the person with ASD experiences consistent success in communicating with different interaction partners. For children who neither acquire verbal language nor learn to communicate with picture cards, the use of individual signs can be useful in order to enable at least basic participation. The general introduction of a systematized sign language (such as DGS), on the other hand, is not very promising and tends to limit the possibility of participation.
	Strong consensus (>95% agreement)

Recommendation 33: C.5.1.3 Inappropriate therapies for the treatment of speech and language disorders in ASD (evidence-based)

	Key Question TSF 7. Which therapeutic procedures have been shown to be ineffective? (SE.)
Level of Recommendation **A**	**All ages, with and without intelligence impairment** Auditory integration training and neurofeedback should not be used to treat speech and language disorders in people with autism spectrum disorders.
Level of Recommendation **B**	Medication therapies should not currently be used to treat speech and language disorders in individuals with autism spectrum disorder.
Evidence Level: **2**	**Sources**: NICE, 2012, 2013
	Strong consensus (>95% agreement)

Recommendation 34: C.5.1.4 Therapy for speech disorders (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence?
KKP	**All ages, with and without intelligence impairment** Articulation and fluency disorders are not common in ASD. If they are present and represent an impairment of the child, adolescent or adult, they should be treated according to the evidence- and consensus-based AWMF S3 guideline "Speech Fluency Disorders, Pathogenesis, Diagnosis and Treatment" (registry number 049-013; AWMF, 2016b), as far as this is feasible.
	Strong consensus (>95% agreement)

Recommendation 35: C.5.1.5 Supported communication for therapy of speech disorders (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence?
KKP	**All ages, with and without intelligence impairment** So-called "augmentative and alternative communication" should not be used to promote language development or communication in people with autism spectrum disorder because there is no evidence to support it.
	Consensus (> 75% - 95% agreement)

C.5.2 Circumscribed developmental disorder of motor functions

Recommendation 36: C.5.2.1 Therapy of a circumscribed developmental disorder of motor functions (consensus-based)

	Key Question TSF 6. What therapeutic methods are available for which indications in ASD, and what is their evidence? Key Question TSF 7. Which therapeutic procedures have been shown to be ineffective? Key Question TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Childhood and adolescence, independent of cognitive skills** The guideline group recommends the diagnosis of a concomitant circumscribed developmental disorder of motor functions if the corresponding criteria are fulfilled. In the case of a significant impairment of participation due to the motor problems with corresponding suffering pressure and compliance, therapy can take place according to the AWMF S3 guideline on circumscribed developmental disorder of motor functions (AWMF, 2020), whereby task-oriented therapy approaches are to be given preference.
State-ment	**Adulthood, independent of cognitive skills.** The diagnosis of a circumscribed developmental disorder of motor functions is no longer given in adulthood and therefore no longer represents an indication for therapy.
	Strong consensus (>95% agreement)

C.5.3 Elimination disorders

Recommendation 37: C.5.3.1 Therapy of elimination disorders (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD, and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**All ages, regardless of cognitive skills:** The guideline group points out the necessity to consider the age criteria for the assignment of the corresponding diagnosis when an excretory disorder is suspected. The guideline group recommends to clarify and exclude organic causes. Once organic causes have been ruled out, the diagnosis of non-organic excretory disorder should be made according to the current AWMF S2k guideline 028-026 (AWMF, 2015b). Subsequently, the appropriate specific behavioral or drug therapy should be initiated. There is currently no valid AWMF guideline on the therapy of encopresis. However, there are recommendations from the International Society on Infantile Incontinence and its members (Koppen et al., 2016; Gontard, 2013), which should be followed until the AWMF guidelines are updated. The therapy of elimination disorders should always be carried out within the framework of an overall treatment plan for a child, adolescent or adult with ASD, as there are usually other comorbidities, such as oppositional or anxious behaviour, which must be treated primarily in order to then be able to work effectively on the elimination disorder in a next step. Likewise, the family and everyday situation must be taken into account when planning treatment. If an excretory disorder recurs as a result of risperidone therapy or other therapy with neuroleptics, the drug should be reduced or discontinued and an alternative preparation should be used to suit the corresponding target symptomatology.
	Strong consensus (>95% agreement)

Recommendation 38: C.5.3.2 (Partial) inpatient treatment of excretory disorders (consensus-based)

	Key Question TSF 6. What therapeutic methods are available for which indications in ASD, and what is their evidence? Key Question TSF 7. Which therapeutic procedures have been shown to be ineffective? Key Question TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children and adolescents, regardless of cognitive skills:** If the outpatient treatment of excretory disorders is not successful within approx. 3 -6 months or if the parents/primary caregivers have great difficulty implementing the outpatient measures at home with the child/adolescent, partial inpatient therapy or - as a rule in the case of additional comorbid disorders - full inpatient therapy should be considered and initiated in good time.
	Strong consensus (>95% agreement)

C.6 Cognitive and daily living skills

C.6.1 Cognitive skills and partial performance disorders

Recommendation 39: C.6.1.1 Psychosocial therapy to promote general cognitive skills in toddlers and preschoolers (evidence-based)

	Key Question TSF 6. What therapeutic methods are available for which indications in ASD, and what is their evidence? Key Question TSF 7. Which therapeutic procedures have been shown to be ineffective? Key Question TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Children of toddler and preschool age with and without intelligence impairment** If the improvement of general cognitive skills (IQ) is a therapeutic goal of individual psychosocial support, then comprehensive training of different developmental domains including the introduction to new tasks and different sensory stimuli should be used with attention to the generalization of the practiced skills in everyday life (see C. 4.2 Social interaction and communication). Essential elements of this promotion: 1. Promote self-initiated learning by increasing the child's social motivation, play, imitation and interaction skills. 2. Expanding the child's play and sensory repertoire, reducing the child's avoidance behaviors toward new stimuli or demands via building appropriate interests and arousing curiosity, and gradual exposure to avoidance. 3. Frequent practice of learned skills in different contexts (generalization) and in the context of social-interactive situations.
Degree of Recommendation: **C**	*On funding frequency:* For children with below-average cognitive skills or children who have a slow learning pace, the weekly therapy frequency of approximately 2

	hours/week (see C. 4.2 Social interaction and communication) to approximately 5- 10 hours/week over a limited period of time. The effect of the intensified therapy should be checked regularly about every 6 months by means of standardized developmental or cognitive tests, if possible by independent diagnosticians, since only some children benefit from the intensified therapy.
Evidence Level: **2-3**	**Sources:** Dawson et al, 2010; Kitzerow, Teufel, Jensen, Wilker & Freitag, 2019; Reichow et al, 2018; Strain & Bovey, 2011; Woo et al, 2015; Woo & Leon, 2013.
	Consensus (>75% - 95% agreement)

Recommendation 40: C.6.1.2 Promotion of cognitive skills and intervention for partial performance disorders (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**children in early elementary school** If there is an appropriate indication for the promotion of general cognitive skills, the above-mentioned promotion for small and preschool children can also be continued in early primary school age. **Elementary school, adolescence and adulthood** The promotion of general cognitive skills is usually no longer a specific therapy goal in these age groups, but individual promotion of everyday practical skills should take place (see Chapter C.6.2 Everyday practical skills and adaptive behaviour). If partial performance disorders in childhood and adolescence (dyslexia, dyscalculia) are present, therapy should be planned and implemented according to the current S3 guidelines 028-044 (AWMF, 2015a) and 028-046 (AWMF, 2018a).
	Strong consensus (> 95% agreement)

Recommendation 41: C. 6.1.3 Further development of support in inclusive kindergartens and inclusive or specialised schools (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Pre-school and primary school age children:** With regard to the promotion of general cognitive skills as well as the prevention and treatment of partial performance disorders, the guideline group recommends the development and scientific review of (pre-)school-based support programmes analogous to the above-mentioned programmes and contents that can be implemented in the German school system. In addition, appropriate training opportunities for educators and teachers should be reviewed or created.
	Strong consensus (>95% agreement)

Recommendation 42: C.6.1.4 Medication therapy to promote cognitive skills in all age groups in ASD with intelligence impairment (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Level of Recommendation **B**	There are currently no medications available that improve cognitive skills in people with autism spectrum disorder and intelligence impairment. All psychotropic medications and especially pharmacological neuro-enhancement should not be used with the goal of improving cognitive skills.
Evidence Level: **2-3**	**Sources:** see NICE, 2012, 2013
	Strong consensus (>95% agreement)

Recommendation 43: C.6.1.5 Other therapies for intelligence impairment (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Level of Recommendation **A**	There are currently no biological (e.g., vitamins, minerals, omega-3 fatty acids) or alternative procedures (e.g., auditory integration training, biofeedback, music therapy, massage) available to improve cognitive skills in people with autism spectrum disorder and intelligence impairment. Such procedures should not be used with the goal of improving cognitive skills.
Evidence Level: **1**	**Sources:** see Cheng et al, 2017; Horvath, Łukasik & Szajewska, 2017; NICE, 2012, 2013.
	Strong consensus (> 95% agreement)

C.6.2 Everyday practical skills and adaptive behaviour

Recommendation 44: C. 6.2.1 Psychosocial therapy to improve daily living skills and adaptive behavior in young children and preschoolers (regardless of developmental age & cognitive skills) - Part 1 (evidence-based).

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Young children and preschoolers, regardless of developmental age and cognitive skills.** In toddlers and preschoolers, the comprehensive, low-frequency therapy methods mentioned in the recommendations of Section C.4.2 should be used to promote everyday practical skills and adaptive behaviour. Within the framework of these comprehensive therapy procedures, individual therapy goals appropriate to the developmental age with regard to the child's everyday practical skills should be agreed with the parents and specifically trained using effective practice, behaviour therapy-based procedures. In particular, the parents/primary caregivers as well as the kindergarten teachers should be instructed in specific support with regard to the individual therapy goals in everyday life. The therapy should be carried out (under regular review of the individual appropriateness of the chosen practical everyday therapy goals) until the specifically practiced practical everyday behavior is mastered by the child in various situations. Specific content and description of interventions: see Chap. C. 4.2 Social interaction and communication
Evidence Level: **2-3**	**Sources:** Kitzerow et al (2019), Tonge, Brereton, Kiomall, Mackinnon & Rinehart (2014), Wetherby et al (2014), Reitzel et al (2013).
	Consensus (>75% - 95% agreement)

Recommendation 45: C. 6.2.2 Psychosocial therapies to improve daily living skills and adaptive behavior in young children and preschoolers (regardless of developmental age & cognitive skills) - Part 2 (evidence-based).

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Young children and preschoolers, regardless of developmental age and cognitive skills.** If a child with ASD has aggressive, hyperactive and oppositional behaviour that makes it difficult to implement the above-mentioned comprehensive, low-frequency therapy procedures with regard to everyday practical skills, additional targeted training of the parents or the main caregiver regarding effective methods for reducing aggressive, hyperactive and oppositional behaviour should take place before or parallel to the child's therapy (contents: see Chapter C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder).
Evidence Level: **2**	**Sources:** Scahill et al. (2016)
	Strong consensus (>95% of votes)

Recommendation 46: C. 6.2.3 Psychosocial therapies to improve daily living skills and adaptive behaviour in schoolchildren without intellectual disabilities - Part 1 (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Schoolchildren <u>without</u> intelligence impairment** In primary school children, an individual, manualised therapy limited to approx. 10 sessions should be carried out to promote emotion regulation and improve existing internalising and externalising behaviours by means of practical everyday exercises and homework, with the involvement of parents and teachers.
Evidence Level: **2**	**Sources:** Weiss et al. (2018)
	Majority approval (> 50% - 75% approval)

Recommendation 47: C. 6.2.4 Psychosocial therapies to improve daily living skills and adaptive behaviour in schoolchildren without intellectual impairment - Part 2 (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8. What are the adverse effects of the various therapeutic procedures?
KKP	**Schoolchildren <u>without</u> intelligence impairment** In therapies it has to be taken into account that many patients with ASD first need a longer therapeutic relationship building and that the implementation of the therapeutic learning contents into everyday life is often more difficult due to the reduced generalization ability and reduced flexibility.
	Majority approval (> 50% - 75% approval)

Recommendation 48: C. 6.2.5 Computer-based training to improve daily living skills and adaptive behaviour in schoolchildren without intellectual impairment (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8. What are the adverse effects of the various therapeutic procedures?
Degree of Recommendation: **A**	**Schoolchildren <u>without</u> intelligence impairment** Computer-based training of working memory or cognitive flexibility should not be conducted.
Evidence Level: **2**	**Sources:** deVries, Prins, Schmand & Geurts (2015)
	Consensus (> 75% - 95% agreement)

Recommendation 49: C. 6.2.6 Psychosocial therapies to improve daily living skills and adaptive behaviour in adolescents without intellectual impairment (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8. What are the adverse effects of the various therapeutic procedures?
KKP	**Adolescents <u>without</u> intelligence impairment** Half of the children and adolescents with ASD without intelligence impairment show clear difficulties in everyday practical tasks. These difficulties contrast with their general level of intelligence. Since skills in this area correlate highly with a positive developmental trajectory, this area should always be a part of the overall treatment plan. First, the possible difficulties should be systematically recorded and targeted, behavior therapy-oriented intervention steps should be derived from them.
	Strong consensus (>95% agreement)

Recommendation 50: C. 6.2.7 Psychosocial therapies to improve daily living skills and adaptive behaviour in adults without intellectual impairment - Part 1 (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Adults <u>without</u> intelligence impairment** In adults without intelligence impairment, a manualized group therapy (weekly 90 min) limited to approx. 20 sessions should be conducted, covering the following contents: (1) coping with stress and anxiety, (2) self-organization, and (3) adaptive and social skills. Group therapy should include homework and easy-to-implement daily practical exercises.
Evidence Level: **2-3**	**Sources:** Oswald et al. (2018)
	Consensus (> 75% - 95% agreement)

Recommendation 51: C. 6.2.8 Psychosocial therapies to improve daily living skills and adaptive behaviour in adults without intellectual impairment - Part 2 (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults <u>without</u> intelligence impairment** There are several other approaches to improving daily living skills in adults with autism spectrum disorder, but few have been explored in RCT studies.
	Consensus (> 75% - 95% agreement)

Recommendation 52: C. 6.2.9 Psychosocial therapies to improve daily living skills and adaptive behaviour in adults without intellectual impairment (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults without intelligence impairment** The difficulties in the daily practical area often contrast with the intellectual level. Since self-care is of particular importance in adulthood, this area should always be a part of the overall treatment plan. First of all, the possible difficulties should be systematically recorded and targeted, behavioural therapy-oriented intervention steps should be derived from this.
	Strong consensus (>95% agreement)

Recommendation 53: C. 6.2.10 Psychosocial therapy to improve daily living skills and adaptive behaviour in primary school children, adolescents and adults with intellectual disabilities (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Primary school children, adolescents and adults with intelligence impairment** In order to promote everyday practical skills, individualized, highly structured, practical, behavior therapy-based exercises appropriate to the cognitive development should be consistently carried out in everyday life by parents/caregivers/primary caregivers/integration aides/special education teachers/staff of residential groups or workshops. Exercises should be developed in such a way that they build on the individual existing skills of the person with ASD and these are successively extended using natural reinforcement. If possible and meaningful in terms of content, the exercises should be implemented in the (small) group.

	In case of difficulties in implementation or insufficient therapy success, behavioural analyses (SORKC model) should be carried out in order to quickly find individual starting points for improving the effectiveness of the intervention. Individual daily practical goals may include: independent dressing, personal hygiene, eating, household chores, working in a workshop, hobbies, meaningful leisure activities. This should involve the use of structuring procedures such as visual plans, etc., as well as conditioning and operant behavioral therapy procedures to build skills. To guide parents/caregivers/primary caregivers/integration aides/special educators/residential group or workshop staff in the practical, behavioral therapy-based exercises and conduct of the behavioral assessments, therapists should be consulted who have the skills described in Chapter C. 3 Structure of care and qualification of therapists or meet the qualifications listed in the recommendation of the chapter.
	Strong consensus (>95% agreement)

Recommendation 54: C. 6.2.11 Medication therapies to improve daily living skills and adaptive behaviors in children, adolescents, and adults, independent of cognitive skills (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **A**	**Children, adolescents and adults, regardless of cognitive skills** No psychotropic medications and, in particular, no neuroenhancement substances are to be used at this time to promote daily living skills and adaptive behavior.
Evidence Level: **2**	**Sources:** Frye et al (2018), NICE (2012, 2013), Mankad et al (2015).
	Strong consensus (>95% agreement)

Recommendation 55: C. 6.2.12 Medication therapies to improve daily living skills and adaptive behaviors in children & adolescents with hyperactive, aggressive, and oppositional behaviors, independent of cognitive skills (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Children and adolescents, regardless of cognitive skills** If a child or adolescent with ASD exhibits aggressive, C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour and oppositional C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour that permanently impedes the implementation of the above-mentioned psychosocial interventions with regard to everyday practical skills, targeted drug therapy should be started in addition to parent trainingC. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour in accordance with the recommendations in ChapC. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder
Evidence Level: **2-3**	**Sources:** Scahill et al. (2012)
	Consensus (> 75% - 95% agreement)

Recommendation 56: C. 6.2.13 Riding therapy to improve daily living skills and adaptive behavior in school-age children, independent of cognitive skills (evidence-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **A**	**School children regardless of cognitive skills** Riding therapy should not be done to improve adaptive skills.
Evidence Level: **2**	**Sources:** Borgi et al (2016), Gabriels et al (2015).
	Consensus (> 75% - 95% agreement)

Recommendation 57: C. 6.2.14 Concerning research on further procedures to improve daily living skills and adaptive behaviour in children, adolescents and adults, independent of cognitive skills (consensus-based)

	TSF 6. What therapeutic procedures are available for which indications in ASD and what is their evidence? TSF 7. Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children and adolescents, regardless of cognitive skills** The promotion of the implementation of individual and group-based exercises for the promotion of everyday practical skills in school (any type of school) should be systematically investigated using appropriate studies (first: feasibility studies, then randomised-controlled studies).
	Strong consensus (>95% agreement)

C. 6.3 Regression of skills

Recommendation 58: C.6.3.1 Need for further research on skill regression (consensus-based).

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 11: What are the special features of regressive developmental trajectories?
KKP	Since the overall study situation on skill regression is very poor, the guideline working group recommends further research, on the one hand, to clarify the causes, on the other hand, to find new drug therapy approaches and on the question of the effectiveness of specific psychosocial interventions for the targeted treatment of regression in the various affected skills.
	Strong consensus (>95% agreement)

Recommendation 59: C.6.3.2 Differential diagnostic considerations in the presence of skill regression (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 11: What are the special features of regressive developmental trajectories?
Recommendation grade: **B**	Since cause clarification regarding the treatment of regression in autism spectrum disorders is essential for consideration of targeted therapy, differential diagnostic considerations are also listed here. Regression of language and/or social skills before the 3rd birthday is strongly suspected to be an autism spectrum disorder. In addition to autism-specific diagnostics, possible genetic causes, epilepsy, especially electrical status epilepticus during sleep or Landau-Kleffner syndrome, neuro-degenerative diseases as well as CNS tumors should be clarified and - if possible - specifically treated.
Evidence Level: **4**	**Sources**: Camacho, Espín, Nuñez & Simón, 2012; Chilosi et al., 2014.

	Strong consensus (>95% agreement)

Recommendation 60: 6.3.3 Treatment of a regression of skills (consensus-based)

	Key Question TSF 6. What therapeutic methods are available for which indications in ASD, and what is their evidence? Key Question TSF 7. Which therapeutic procedures have been shown to be ineffective? Key Question TSF 8: What are the adverse effects of the different therapeutic procedures? Key question TSF 11: What are the particularities of regressive developmental trajectories?
KKP	Treatment for regression should be based on the possible cause. In particular, epilepsies, electrical status epilepticus during sleep or a Landau-Kleffner syndrome, neurodegenerative diseases as well as CNS tumors can be treated specifically. In these cases, urgent referral and clarification by paediatric neurological specialists are required. If no organic cause is found, language and daily living skills should be retrained in the same way as recommended in Section C. 4 Therapies to improve autism-specific symptoms and Section C.6.2 Everyday practical skills and adaptive behaviour
	Consensus (>75% - 95% agreement)

C. 7 Treatment of comorbid mental disorders and symptoms

C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder

Statement 4: C.7.1.1 Oppositional and aggressive behaviour - necessary supply (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
KKP	**All ages, regardless of cognitive skills** Due to the frequency of oppositional and aggressive behaviours in people with autism spectrum disorders and the complexity of the background for these behaviours, regular psychological-psychiatric and somatic follow-up examinations should be carried out by the case management (see above as well as part B of the diagnostic guideline), with the aim of being able to guarantee the necessary support, treatment, accompaniment and/or promotion in individual cases according to need and taking into account the comorbidly present psychological and somatic illnesses.
	Strong consensus (>95% agreement)

Recommendation 61: C.7.1.2 Psychosocial therapy for oppositional and aggressive behaviour in childhood and adolescence - Part 1 (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
Recommendation grade: **A**	**Children and adolescents, regardless of cognitive skills** In terms of therapy, the recommendations from the NICE source guidelines for children and young people are considered appropriate and have been adopted. In summary, this means: The primary **causes of** oppositional and aggressive behaviour should be addressed by means of appropriate interventions. By means of **differentiated behavioural analysis,** information should be collected (by the affected persons themselves, by parents, other caregivers, e.g. teachers, direct observation of behaviour) on when, where, with whom, in what form and how often the oppositional and aggressive behaviour occurs and how it is reacted to. This serves to identify possible causes and perpetuating factors of the oppositional and aggressive behaviors. From the behavioural analysis, targeted intervention options can then be derived, which should subsequently be used and evaluated in terms of their effectiveness. **Comorbid mental or physical disorders** that may be related to oppositional and aggressive behaviours should be identified, diagnosed and treated in an evidence-based manner. Appropriate diagnostic examinations and treatments are to be initiated and their treatment success in relation to the course of the expansive behavioural disorders is to be investigated. If there are no comorbid mental or physical illnesses or environmental factors that trigger or maintain oppositional and aggressive behaviour, **psychosocial intervention services based on behavioural analysis** should be offered as primary treatment (*first-line treatment*), provided that the intensity of the expansive behavioural problems is moderate. In this context, particular attention should be paid to the development of competencies and

effective positive, natural reinforcement of the child's/adolescent's functional behaviours.

If the expansive behavioural problems place a high burden on the caregivers, **medication** should be administered in addition to psychosocial interventions (see below).

If necessary, environmental **modifications shall be** induced (e.g., visual support in structuring demands, sleep hygiene) if behavioral analysis indicates a link to oppositional and aggressive behaviors. Excessive demands should be identified and the demands adjusted to the developmental level (especially cognitive, emotional and/or language skills).

The following evidence-based psychosocial therapies are available for the treatment of oppositional and aggressive behaviors in children and adolescents with autism spectrum disorder regardless of their cognitive skills:

Pre-school age - primary school age - adolescence with and without intelligence impairment

Manualised, behavioural therapy-based parent training is to be carried out in order to support the educational competences of the parents, to strengthen the parents' experience of effectiveness and thus indirectly to reduce oppositional and aggressive behaviour in children and adolescents with autism spectrum disorder. In the parent training, the following skills are to be developed with the parents and practiced using role plays:

- Parenting skills to promote positive parent-child interactions,
- Parenting skills to promote child/adolescent communication skills,
- Parenting skills to promote emotion regulation in the child/adolescent,
- Effective setting and implementation of rules by parents,
- Clearly refrain from parental punitive behaviors (e.g., scolding),
- Practical exercises based on homework for parents with debriefing on the success of the exercises.

Evidence Level: **2-3**	**Sources**: NICE, 2013, Postorino et al, 2017.
	Strong consensus (>95% agreement)

Recommendation 62: C.7.1.3 Psychosocial therapy for oppositional and aggressive behaviour in childhood and adolescence - Part 1I (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
KKP	**Children, adolescents with and without intelligence impairment** In addition to the above mentioned parent trainings, interventions recommended in the current AWMF S3 guideline on "Diagnosis and Treatment of Social Behavior Disorder" can be considered. The corresponding recommendations can also be partially implemented in adolescents with autism spectrum disorder according to the clinical assessment (taking into account the disorder-specific features in autism spectrum disorder). In the presence of autoaggressive behaviours, the recommendations of the AWMF Sk2 guideline on "Non-suicidal self-injurious behaviour (NSSV) in childhood and adolescence" can be applied based on an individual behavioural analysis and taking into account the emotional and cognitive development of the child/adolescent with autism spectrum disorder.
	Strong consensus (>95% agreement)

Recommendation 63: C.7.1.4 Psychosocial therapy for oppositional and aggressive behaviour in adulthood (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
KKP	**Adulthood with and without intelligence impairment** Analogous to the procedure in childhood and adolescence, a differentiated behavioural analysis is to be carried out. This serves to identify possible causes and maintaining factors of oppositional and aggressive behaviour. From the behavioural analysis, targeted intervention options can then be derived, which are subsequently to be used and evaluated in terms of their effectiveness. If there are no comorbid mental or physical illnesses or environmental factors that trigger or maintain oppositional and aggressive behaviour, **psychosocial intervention services based on behavioural analysis** should be offered as primary treatment (*first-line treatment*), provided that the intensity of the expansive behavioural problems is moderate. In this context, particular attention should be paid to the development of competencies as well as effective positive, natural reinforcement of functional behaviours of the adult. If the expansive behavioural problems place a high burden on the caregivers, **medication** should be administered in addition to psychosocial interventions (see below). If necessary, environmental **modifications shall be** induced (e.g., visual support in structuring demands, sleep hygiene) if behavioral analysis indicates a link to oppositional and aggressive behaviors. Excessive demands should be identified and the demands adjusted to the developmental level (especially cognitive, emotional and/or language skills). In the presence of autoaggressive behaviors, the recommendations of the AWMF Sk2 guideline on "Non-suicidal self-injurious behavior (NSSV) in

	childhood and adolescence" can be applied based on an individual behavioral analysis and taking into account the emotional and cognitive development of the adult with autism spectrum disorder.
	Strong consensus (>95% agreement)

Statement 5: C.7.1.5 Psychosocial therapy for oppositional and aggressive behaviour in childhood and adolescence - adverse effects (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
	Children and adolescents, regardless of cognitive skills In the case of psychosocial interventions (especially parent training), no undesirable effects have been reported so far if they are carried out correctly, although they have rarely been systematically investigated.
Evidence Level: **2-3**	**Sources**: NICE, 2013, Postorino et al, 2017.
	Strong consensus (>95% agreement)

Recommendation 64: C.7.1.6 Medication therapy for oppositional and aggressive behaviour in childhood and adolescence (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
Recommendation grade: **A**	**Children and adolescents, regardless of cognitive skills** For the **antipsychotics risperidone** and **aripiprazole,** there is high evidence (grade 1) for efficacy in the short-term treatment of expansive behavior in autism spectrum disorders. Antipsychotics should not be routinely used in the treatment of oppositional and aggressive behaviors in autism spectrum disorder because of their profile of adverse effects (see E C.4.3.8 above). They should be used when psychosocial/psychotherapeutic interventions alone have been insufficient and the oppositional and aggressive behaviors are severe, endangering, or strongly interfere with daily functioning or interfere with the success of other interventions. Medication with antipsychotics should always be used in combination with the above-mentioned psychosocial interventions, especially parent training. For other substance groups (in particular anticonvulsants, SSRIs, atomoxetine, amantadine, naltrexone, N -acetylcysteine, cannabidoids), there is no or insufficient evidence regarding efficacy in oppositional and aggressive behaviour. They should therefore not be used for the treatment of oppositional and aggressive behaviour. During **pharmacotherapy with antipsychotics,** the following possible adverse effects (ADEs) in particular should be monitored regularly: – metabolic adverse events (including weight gain and diabetes mellitus) – extrapyramidal ADRs (including acute and tardive dyskinesia, akathisia, dystonia, parkinsonoid) – cardiovascular adverse events (including QT time prolongation)

– hormonal/endocrine ADRs (including prolactin elevation)

The following **examinations** should be performed and documented before and during treatment with antipsychotics:

At the beginning and annually:

– (Family) history and lifestyle, previous and current treatment and medication and their effectiveness
– Current psychosocial interventions and their effectiveness

Every visit:

– Assessment of the effectiveness of the medication
– Measurement of height, body weight, BMI, abdominal circumference
– Measurement of pulse and blood pressure
– Assessment of fatigue/sedation
– Prolactin-associated UAWs (galactorrhea, amenorrhea, gynecomastia)
– New medication (interactions)

At baseline, after 3 months and after 6 months, then every 6 months (less if UAWs are minor):

– Laboratory (according to technical information)

At the beginning, during the up-dosing, then every 3 months:

– Assessment with regard to the presence of extrapyramidal UAWs (early and tardive dyskinesias) in the course of a neurological examination

When weighing medication with risperidone or aripiprazole, the profile of ADRs should be considered: There is potentially a lower risk of sedation and extrapyramidal UAWs for aripiprazole versus risperidone. However, no difference exists in the long term with regard to weight development.

Dosage:

An exact dosage cannot be recommended.

According to studies the following dosages were used

	– Risperidone: mean dosage 1.2-1.8 mg/day, absolute dosage 1-2mg/day – Aripiprazole: absolute dosage 5-15 mg/day If the effectiveness is insufficient after 6 weeks, the drug should be discontinued and replaced with another agent.
Evidence Level: **1-2**	**Sources**: Aman et al (2009), Arnold et al (2012), Fung et al (2016).
	Strong consensus (>95% agreement)

Recommendation 65: C.7.1.7 Medication therapy for oppositional and aggressive behaviour in adulthood (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
Degree of Recommendation: **A-0**	**Adults, regardless of cognitive skills** For the **antipsychotic risperidone,** there is moderate evidence (grades 2-3) for efficacy in the short-term treatment of aggressive behavior in people with autism spectrum disorder. Risperidone or other antipsychotics should not be routinely used in the treatment of oppositional and aggressive behaviors in autism spectrum disorders because of the profile of adverse effects (see E C.4.3.8 above). They can be used when psychosocial/psychotherapeutic interventions alone have been insufficient and the oppositional or aggressive symptomatology is severe, endangering, or strongly interferes with everyday functioning or interferes with the success of other interventions. Medication with antipsychotics should always be used in combination with the above-mentioned psychosocial interventions.
Evidence Level: **2-4**	**Sources**: NICE, 2012, McDougle et al (1998).
	Strong consensus (>95% agreement)

Recommendation 66: C.7.1.8 Other therapies for oppositional and aggressive behaviour in childhood, adolescence and adulthood (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
Degree of Recommendation: **A**	**Children, adolescents and adults, with and without intelligence impairment** There is no robust evidence for other therapies to reduce oppositional and aggressive behaviours in children, adolescents or adults. Therefore, no therapies other than the above-mentioned psychosocial and drug therapies should be used to improve oppositional and aggressive behaviour in children, adolescents or adults.
Evidence Level: **2-4**	**Sources**: NICE, 2012, NICE, 2013
	Strong consensus (>95% agreement)

Recommendation 67: C.7.1.9 (Partial) inpatient therapy for oppositional and aggressive behaviour (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures? TSF 10. How can external and/or autoaggressiveness be treated in ASD?
KKP	**Children, adolescents and adults, with and without intelligence impairment** In the case of a corresponding degree of severity (e.g. lack of kindergarten or school attendance; more intensive guidance of parents/caregivers necessary; difficulties in the outpatient medication setting), partial inpatient or inpatient therapy should be considered in good time in childhood, adolescence and adulthood, in which the psychosocial and medication therapies recommended above should be used more intensively. Particular attention should be paid to positive reinforcement and the development of skills.
	Strong consensus (>95% agreement)

C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour

Recommendation 68: C.7.2.1 Psychosocial therapy for the treatment of activity and attention deficit disorder (ADHD)/hyperactive behaviour in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** No usable studies are available on psychosocial therapies for children, adolescents, and adults with autism spectrum disorders and comorbid ADHD. Since drug therapy (see below) is very effective, psychosocial methods for treating the patient's comorbid ADHD symptoms should only be used in addition to drug therapy. With regard to psychosocial procedures, it is recommended to follow the recommendations of the AWMF S3 guidelines on attention deficit/hyperactivity disorder (ADHD) in children, adolescents and adults. In children and adolescents, parent training should primarily be used analogous to the recommendations of the present guideline (Section C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder behaviour) for comorbid oppositional and aggressive behaviour.
	Consensus (>75-95% agreement)

Recommendation 69: C.7.2.2 Drug therapy for the treatment of activity and attention deficit disorder (ADHD)/hyperactive behaviour in children and adolescents with and without intelligence impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **A**	**Children and adolescents with and without intelligence impairment** Methylphenidate (MPH) and atomoxetine (ATX) are effective in treating ADHD symptoms in autism spectrum disorders and should be used primarily when a diagnosis of comorbid activity and attention disorder is made. Guanfacine may be used as a third alternative when symptomatology is of clinically relevant severity, MPH or ATX have not been effective, therapy with MPH/ATX has interfered with other interventions, and/or has resulted in a high rate of adverse drug reactions. Significant research is currently lacking on the use of amphetamines in autism spectrum disorders, but they may be used when methylphenidate is not sufficiently effective. Omega-3 supplements and gluten/casein-free diets should not be used to treat ADHD symptoms in autism spectrum disorder due to insufficient efficacy. Antipsychotics may be effective against symptoms of hyperactivity and impulsivity but should only be used in the presence of additional oppositional and aggressive behaviours due to their unfavourable profile of adverse drug effects (see recommendations in Chapter C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder). During pharmacotherapy with methylphenidate, amphetamines, atomoxetine and guanfacine, the following possible adverse drug reactions (ADRs) in particular should be monitored regularly: – Appetite reduction (MPH, amphetamines, ATX, guanfacine) – Sleep disorders (MPH, amphetamines) – Irritability and emotional outbursts (MPH, amphetamines, AXT)

	– Gastrointestinal symptoms (ATX, guanfacine) – Dizziness and fatigue (ATX, guanfacine). The frequency of ADRs varies considerably in the available studies. Because of the more frequent and more pronounced ADRs (MPH, amphetamines, and ATX) in children and adolescents with autism spectrum disorder, medication should be started at the lowest possible dosage and dosage increases should be in smaller increments and/or slower than in children with ADHD without autism spectrum disorder. The maximum dosage can be found in the recommendations of the AWMF S3 guideline on attention deficit/hyperactivity disorder (ADHD) in children, adolescents and adults. Necessary examinations before starting drug therapy can be found in the recommendations of the AWMF S3 guideline on attention deficit/hyperactivity disorder (ADHD) in children, adolescents and adults. The choice of active substance should be based on the overall constellation of symptoms, taking into account the age of the patient and the spectrum of possible adverse effects.
Evidence Level: **1-2**	**Sources**: NICE, 2013, NICE, 2012
	Strong consensus (>95% agreement)

Recommendation 70: C.7.2.3 Drug therapy for the treatment of activity and attention deficit disorder (ADHD)/hyperactive behaviour in adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults with and without intelligence impairment** Adults with autism spectrum disorder and comorbid ADHD should be treated in the same way as children and adolescents (see Recommendation 66 above: C.7.2.2).
	Strong consensus (>95% agreement)

Recommendation 71: C.7.2.4 Other procedures for the treatment of activity and attention deficit disorder (ADHD)/hyperactive behaviour in children, adolescents and adults (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Children and teenagers and adults** Currently, there are no additional therapies available to reduce hyperactive and inattentive behaviors or to treat activity and attention disorders in children, adolescents, or adults. Psychosocial and drug therapies other than those mentioned above should not be used in children, adolescents and adults without evidence of additional benefit.
Evidence Level: **2-4**	**Sources**:NICE, 2013, NICE, 2012
	Strong consensus (>95% agreement)

Recommendation 72: C.7.2.5 (Partial) inpatient therapy for the treatment of activity and attention deficit disorder (ADHD)/hyperactive behaviour (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** In the case of a corresponding degree of severity (e.g. lack of kindergarten- or school attendance; more intensive guidance of parents/caregivers necessary; difficulties in the outpatient medication setting), timely consideration should be given to partial inpatient or inpatient therapy in childhood, adolescence and adulthood, in which the psychosocial and medication therapies recommended above should be used more intensively. Particular attention should be paid to positive reinforcement and the development of skills.
	Strong consensus (>95% agreement)

C. 7.3 Anxiety disorders

Recommendation 73: C.7.3.1 Psychosocial therapy for the treatment of anxiety disorders in children and adolescents without intellectual impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Grade of recommendation: **A-B**	**Children and adolescents <u>without</u> intelligence impairment** Therapy is to be provided over the period of approximately 3- 6 months in the peer group of children and adolescents with autism spectrum disorder and comorbid anxiety disorderr with additional individual sessions. As part of the therapy, manualized cognitive-behavioral therapy for the treatment of anxiety disorders (analogous to those without autism spectrum disorder) will be used, including at least the following elements: Psychoeducation

	on anxiety disorders, discussion about one's own fears with disorder model, elaboration of concrete ways of coping and concrete exposure exercises, which are practiced in homework. In addition, cognitive elements and exercises based on them should be used. Parents/central caregivers should be involved and support the implementation of homework and especially exposure exercises in everyday life. In addition, the following autism-specific adaptations of existing group therapy programs for anxiety disorders will be implemented: – Use of written and visual information and structured worksheets, – specific task, – clearly structured process, – clear and concrete language, – Inclusion of a parent or caregiver in therapy sessions, if available, to support implementation of the program, – regular breaks to improve attention, – if possible, the (special) interests of the child or adolescent should be included in the therapy. For children and adolescents who find it difficult or impossible to participate in group-based services, the above-mentioned services are to be provided in individual settings.
Evidence Level: **1**	**Sources**: Kreslins, Robertson & Melville (2015), Ung, Selles, Small & Storch (2015).
	Strong consensus (>95% agreement)

Recommendation 74: C.7.3.2 Psychosocial therapy for the treatment of anxiety disorders in adults without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults without intelligence impairment:** Therapy should be provided over the period of approximately 3- 6 months in group settings for adults with autism spectrum disorder and comorbid anxiety disorder with additional individual sessions. As part of the therapy, manualized cognitive behavioral therapy for the treatment of anxiety disorders (analogous to people without autism spectrum disorder) should be used, including at least the following elements: Psychoeducation on anxiety disorders, discussion about one's own fears with disorder model, elaboration of concrete ways of coping and concrete exposure exercises, which are practiced in homework. In addition, cognitive elements and exercises based on these should be used. The central reference persons should be involved if possible and support the implementation of homework and especially exposure exercises in everyday life. In addition, the following autism-specific adaptations of existing group therapy programs for anxiety disorders will be implemented: – Use of written and visual information and structured worksheets, – specific task, – clearly structured process, – clear and concrete language, – regular breaks to improve attention. For adults who find it difficult or impossible to participate in group-based services, the above-mentioned services should be provided in individual settings.
	Strong consensus (>95% agreement)

Recommendation 75: C.7.3.3 Psychosocial therapy for the treatment of anxiety disorders in adolescents and young adults without intellectual impairment - addendum (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **0**	**Adolescents and young adults <u>without</u> intelligence impairment** Older adolescents and adults may be offered additional elements from Acceptance and Commitment Therapy (ACT) with an autism-specific adaptation. Autism-specific adaptation should consider the following: – Small groups (4 -6 participants), – short, individual mindfulness exercises, – additional mindfulness exercises dealing with perceptual and sensory hypersensitivity or hyposensitivity, – individual homework with instructions and mindfulness exercises, – Stress management and functional behavior analysis worksheets, – clear and concrete language.
Evidence Level: **3**	**Sources**: Pahnke, Lundgren, Hursti & Hirvikoski (2014).
	Strong consensus (>95% agreement)

Recommendation 76: C.7.3.4 Psychosocial therapy for the treatment of anxiety disorders in children, adolescents and adults with intellectual disabilities (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults <u>with</u> intelligence impairment** For the therapy of comorbid anxiety disorders, a behavioural analysis should first be carried out, which elicits triggering and maintaining factors. Based on the behavioural analysis, an individual competence development for coping with anxiety, which takes into account the cognitive and emotional development level, should be carried out. Attention should be paid to a clear structuring of everyday life and the development of everyday practical skills as a prerequisite for effective treatment of anxiety.
	Strong consensus (>95% agreement)

Recommendation 77: C.7.3.5 Drug therapy for the treatment of anxiety disorders in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** If the anxiety symptoms are severe and no sufficient effect has been achieved with the above-mentioned psychosocial interventions after a maximum of 3 months, a treatment attempt should be made with a selective serotonin reuptake inhibitor (SSRI) in combination with the psychosocial intervention. In adults, additional drug options exist, for which reference is made to the S3 Anxiety Guideline (051 - 028).
	Strong consensus (>95% agreement)

Recommendation 78: C.7.3.6 Other procedures for the treatment of anxiety disorders in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** Apart from the above-mentioned behavioural therapy and medication approaches, no other effective therapy methods are available for comorbid anxiety disorders. Medication/behavioural approaches other than those mentioned above should not be used without evidence of additional benefit.
	Strong consensus (>95% agreement)

Recommendation 79: C.7.3.7 (Partial) inpatient therapy for the treatment of anxiety disorders in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**All ages with and without intelligence impairment** In the case of a corresponding degree of severity (e.g. lack of attendance at kindergarten or school; absence from work), timely consideration should be given to partial inpatient or inpatient therapy in childhood, adolescence and adulthood, in which the recommended psychosocial and drug therapies should be intensified.
	Strong consensus (>95% agreement)

C. 7.4 Depressive episodes, recurrent depressive disorder

Recommendation 80: C.7.4.1 Prevention of depressive episodes/recurrent depressive disorder (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **B**	**Primary school and adolescent age <u>without</u> intelligence impairment** Psychosocial prevention of depressive episodes (e.g., as group therapy) in patients with autism spectrum disorders in childhood and adolescence should not be implemented.
Evidence Level: **2-3**	**Sources**: Mackay, Shochet & Orr (2017), Freitag et al. (2016).
	Strong consensus (>95% agreement)

Recommendation 81: C.7.4.2 Prevention of depressive episodes/recurrent depressive disorder in children, adolescents and adults with intellectual impairment and adults without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children/adolescents/adults <u>with</u> intelligence impairment, adults <u>without</u> intelligence impairment** Analogous to children and adolescents without intelligence impairment, children and adolescents with intelligence impairment and adults with and without intelligence impairment and autism spectrum disorder should not be given special measures to prevent depressive episodes.
	Strong consensus (>95% agreement)

Statement 6: C.7.4.3 Psychosocial therapy for depressive episodes/recurrent depressive disorder in preschoolers with and without intellectual impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Preschool age with and without intelligence impairment Autism-specific early intervention that is developmentally oriented, works with the natural learning environment, focuses on the child's interests and situation-appropriate positive reinforcement, and involves parents in the therapy process can lead to a reduction in the child's internalizing symptoms.
Evidence Level: **4**	**Sources**: Kitzerow et al. (2019)
	Strong consensus (>95% agreement)

Recommendation 82: C.7.4.4 Psychosocial therapy for depressive episodes/recurrent depressive disorder in children and adolescents without intellectual impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **0**	**Children and adolescents without intelligence impairment** Diagnosed depressive episodes can be treated in adolescents with autism spectrum disorder and sufficiently high verbal cognitive skills (approximately ≥ 85) and without suicidality with depression-specific group cognitive-behavioral therapy with a strong focus on exercise elements (e.g., movement, positive activities, stress regulation, relaxation).
Evidence Level: **2-3**	**Sources**: Santomauro, Sheffield & Sofronoff (2016).

	Strong consensus (>95% agreement)

Recommendation 83: C.7.4.5 Psychosocial treatment options for depressive episodes/recurrent depressive disorder in children and adolescents with intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children and adolescents with intelligence impairment** The use of practice procedures in everyday life (e.g., exercise, positive activities, stress regulation, relaxation) as well as contingency management with positive reinforcement and reduction of maintaining conditions, if possible in the context of the group/family/facility, are at the forefront of the treatment of a comorbid depressive episode here and should be employed.
	Strong consensus (>95% agreement)

Recommendation 84: C.7.4.6 Psychosocial treatment options for depressive episodes/recurrent depressive disorder in adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults with and without intelligence impairment** For adults with autism spectrum disorder and depressive episodes, the National Health Care Guideline nvl-005, S3 level on unipolar depression should be followed. The corresponding recommendations should also be implemented in adults with autism spectrum disorder regardless of their cognitive skills according to the clinical assessment of specialists in psychiatry and psychotherapy or licensed psychological psychotherapists.
	Strong consensus (>95% agreement)

Recommendation 85: C.7.4.7 Evidence-based recommendation for psychosocial therapy for depressive episodes/relapsing depressive disorder in adults without intellectual impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **0**	**Adults <u>without</u> intelligence impairment** Diagnosed depressive episodes can be treated in adults with autism spectrum disorder and sufficiently high verbal cognitive skills (approximately ≥ 85) and no suicidality with group cognitive behavioral therapy with a focus on exercise elements (e.g., movement, positive activities, stress regulation, mindfulness, relaxation with daily exercises).
Evidence Level: **2**	**Sources**: Spek, van Ham & Nyklíček (2013)
	Strong consensus (>95% agreement)

Recommendation 86: C.7.4.8 Drug therapy of depressive episodes/recurrent depressive disorders in children and adolescents with and without intellectual impairment - Part I (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **A**	**Children and adolescents with and without intelligence impairment** Tricyclic antidepressants should not be used for the treatment of depressive episodes in children and adolescents with autism spectrum disorder.
Evidence Level: **1**	**Sources**: Hurwitz, Blackmore, Hazell, Williams & Woolfenden (2012).
	Strong consensus (>95% agreement)

Recommendation 87: C.7.4.9 Drug therapy of depressive episodes/recurrent depressive disorders in children and adolescents with and without intellectual impairment - Part II (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children and adolescents with and without intelligence impairment** In children and adolescents with autism spectrum disorder with and without intelligence impairment with moderate to severe depressive episodes, SSRIs should be used in addition to psychosocial intervention to treat the depressive episode. Fluoxetine and sertraline should be preferred over citalopram, escitalopram, fluvoxamine, and paroxetine because of a more favorable profile of adverse drug effects and a better study record in childhood and adolescent depressive episodes.
	Strong consensus (>95% agreement)

Recommendation 88: C.7.4.10 Drug therapy of depressive episodes/recurrent depressive disorders in adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adults with and without intelligence impairment** For adults with autism spectrum disorder with and without intelligence impairment and depressive episode, the National Health Care Guideline nvl-005, S3 level, on unipolar depression should be followed. The corresponding recommendations are also to be implemented in adults with autism spectrum disorder regardless of their cognitive skills according to the clinical assessment of specialists in psychiatry and psychotherapy.
	Strong consensus (>95% agreement)

Recommendation 89: C.7.4.11 (Partial) inpatient therapy for depressive episodes/recurrent depressive disorder; all age ranges, with and without intelligence impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** In the case of appropriate severity (moderate or severe depressive episode with significant restriction in everyday life), partial inpatient or inpatient therapy should be considered in a timely manner in children, adolescents and adults.
	Strong consensus (>95% agreement)

Recommendation 90: C.7.4.12 Dealing with suicidality (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** **Suicidal tendencies** should be clarified on a regular basis and the appropriate crisis intervention should be initiated immediately if suicidal tendencies are present. If necessary, the corresponding legal regulations are applied. When clarifying acute suicidality, the communicative characteristics of persons with autism spectrum disorder should be taken into account (see Diagnostic Guideline B.4.6; 028-18, AWMF, 2016a).
	Strong consensus (>95% agreement)

C. 7.5 Obsessive-compulsive disorder

Recommendation 91: C.7.5.1 Treatment of comorbid obsessive-compulsive disorder (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** Compulsive thoughts/actions must be distinguished from stereotyped and repetitive behaviors and intense interests and special interests. Obsessive thoughts must also clearly go beyond preoccupation with intense and special interests. If comorbid obsessive-compulsive disorder is present, the approach should be analogous to the AWMF S3 guidelines for the treatment of obsessive-compulsive disorder in childhood and adolescence (expected to be consented in 2019) and in adulthood (expected to be updated in 2019). In summary - if individually possible due to the cognitive prerequisites - an individual cognitive behavioural therapy adapted to autism spectrum disorders should be used, which contains as essential therapy elements psychoeducation with explanation of the disorder model and maintaining conditions (in childhood and adolescence with the involvement of parents/primary caregivers) as well as exposure with reaction prevention. Here, the focus should be on structured, individually easy-to-implement, everyday practical exercises, which should be supported by visual structuring measures. In addition, clear structures, stimulus control, contingency management and positive reinforcement according to the SORKC model as well as - for people with intelligence impairment - non-verbal simple behavioural exposures can be used as required. If individual cognitive behavioral therapy does not improve obsessive-compulsive symptoms within 1-2 months, additional SSRIs (especially sertraline due to its profile of adverse effects) may be used.

	If the combination of SSRIs and behavioral therapy does not lead to sufficient success or SSRIs lead to an intolerable rate of adverse drug reactions, risperidone or aripiprazole should be used as an augmentation strategy in children and adolescents. In adults, additional drug options exist, regarding which the S3 -Forced -Guideline can be consulted.
	Strong consensus (>95% agreement)

Recommendation 92: C.7.5.1 (Partial) inpatient treatment of obsessive-compulsive disorder (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** In the case of a corresponding degree of severity (e.g. lack of attendance at kindergarten or school; no regular work possible any more; difficulties in the outpatient medication adjustment as well as implementation of the outpatient behavioural therapy), a partial inpatient or inpatient therapy should be considered in time in childhood, adolescence and adulthood.
	Strong consensus (>95% agreement)

C. 7.6 Tic disorders

Recommendation 93: C.7.6.1 Treatment of comorbid tic disorders (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment**

	In the presence of a comorbid tic disorder, the AWMF S3 guidelines for the treatment of tic disorders (expected to be consulted in 2021) should be followed.
	Strong consensus (>95% agreement)

C. 7.7 Sleep disorders

Recommendation 94: C.7.7.1 Treatment of comorbid sleep disorders in children with and without intellectual impairment (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **A**	**Children with and without intelligence impairment** If a sleep disorder is present, a possible organic cause should first be ruled out.
Degree of Recommendation: **B** Evidence Level: **2**	If there is a non-organic disorder of falling asleep or staying asleep, then the following treatment hierarchy should be followed: – After careful assessment of the individual sleep problems and the general conditions, the primary caregivers of children aged -2-12 years (usually the parents) should be offered psychoeducation on sleep hygiene and on how to deal with the various sleep problems and sleep disorders.
Degree of Recommendation: **B** Evidence Level: **2**	– The parents and, if the child is at an appropriate stage of development, the CHILD should be instructed to keep a sleep diary for a period of at least 14 days, in which the time of going to bed, the time of falling asleep, the number and duration of nocturnal waking episodes and the time of waking up in the morning are continuously documented as a basis for subsequent behavioural therapy intervention.

Degree of Recommendation: **A** Evidence Level: **1**	– If behavioural interventions are not effective or not effective enough and the child and his family continue to be clinically distressed, drug therapy with melatonin should be started in the individually necessary dosage up to a maximum of 10 mg in the evening.
Degree of Recommendation: **A-B** Evidence Level: **1-2**	**Sources**: Cuomo et al, 2017; Gringras, Nir, Breddy, Frydman-Marom & Findling, 2017; Johnson et al, 2013; Malow et al, 2014.
	Strong consensus (>95% agreement)

Recommendation 95: C.7.7.2 Treatment of comorbid sleep disorders in adolescents and adults with and without intellectual impairment (consensus-based).

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** If a sleep disorder is present, a possible organic cause should first be ruled out. If there is a non-organic disorder of falling asleep or staying asleep, then the following treatment hierarchy should be followed: – After careful recording of the individual sleep problems and the general conditions, psychoeducation on sleep hygiene and on how to deal with the various sleep problems and sleep disorders should be offered. – A sleep diary should be kept for a period of at least 14 days, in which the time of going to bed, time of falling asleep, number and duration of nocturnal waking episodes, time of waking up in the morning are continuously documented as a basis for a subsequent behavioural therapy-oriented intervention.

	– If behavioural interventions are not effective or not effective enough and clinically relevant stress persists, drug therapy with melatonin should be started in the individually necessary dosage.
	Strong consensus (>95% agreement)

Recommendation 96: C.7.7.3 Treatment of comorbid sleep disorders in children, adolescents, and adults with and without intellectual impairment (consensus-based).

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** In the presence of stereotypic behaviors requiring treatment, as well as oppositional or aggressive behaviors, the lowest possible dose of sedating antipsychotics can be used in addition to melatonin to treat sleep disturbances. Due to the lack of evidence on efficacy and safety, other pharmacological agents should not be used to treat sleep onset and sleep maintenance disorders in autism spectrum disorder.
	Strong consensus (>95% agreement)

C. 7.8 Eating disorders

Recommendation 97: C.7.8.1 Treatment of comorbid feeding disorders in toddlers and preschoolers, with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Feeding disorders in toddlers and preschoolers with and without intelligence impairment** Evidence for the use of specific therapy methods for the treatment of feeding disorders in autism spectrum disorders in young children is not available. For the treatment of feeding disorders in children in this age group, the recommendations of the S2k guideline Mental Disorders in Infants, Toddlers and Preschoolers of the DGKJP (in revision) should be implemented.
	Strong consensus (>95% agreement)

Recommendation 98: C.7.8.2 Treatment of comorbid feeding disorders in toddlers and preschoolers (evidence-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
Degree of Recommendation: **0**	**Feeding disorders and selective eating behaviour in preschool children** Parents of children with autism spectrum disorder may be offered participation in disorder-specific, behavior-based parent training if the child has a feeding disorder.
Evidence Level: **3**	**Sources**: Johnson, Foldes, DeMand & Brooks (2015).
	Strong consensus (>95% agreement)

Recommendation 99: C.7.8.3 Treatment of comorbid eating disorders in children, adolescents and adults, with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** For the treatment of comorbid eating disorders, the corresponding recommendations of the AWMF S3 guideline Diagnostics and Treatment of Eating Disorders (AWMF, 2018b) should be implemented, taking into account fundamental aspects of the therapeutic approach to people with autism spectrum disorders. Early (partial) inpatient therapy should be considered if there is no success within 2-3 months in the context of outpatient treatment.
	Strong consensus (>95% agreement)

C. 7.9 Psychotic disorders

Recommendation 100: C.7.9.1 Treatment of comorbid psychotic disorders (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adolescents and adults <u>with</u> and <u>without</u> intellectual disabilities** The diagnosis of a comorbid psychotic disorder should only be made if the relevant diagnostic criteria (ICD-10) are met. If people with autism spectrum disorder report sensory perception disorders or motor stereotypies, or if these symptoms are observed by others, they should only be diagnosed as psychotic if they clearly exceed autistic symptomatology in terms of

	quality and an increase in symptomatology is observed in the course. Communicative peculiarities of people with autism spectrum disorder should be taken into account. If the development of a psychotic disorder is suspected, an inpatient admission should be considered at any age in order to be able to offer the necessary protection as well as the necessary behavioural observation. It should be differentiated whether an acute transient psychotic disorder or schizophrenia is present. If the diagnosis of schizophrenia is confirmed, the AWMF S3 guideline on schizophrenia should be followed. If an acute transient psychotic disorder is present, the therapy should be adjusted accordingly. In case of comorbid acute psychotic disorder, inpatient therapy should be provided.
	Strong consensus (>95% agreement)

C. 7.10 Bipolar disorders

Recommendation 101: C.7.10.1 Treatment of comorbid bipolar disorder in adolescents and adults with and without intellectual impairment (consensus-based).

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** The diagnosis of comorbid bipolar disorder should only be made if the relevant diagnostic criteria (ICD-10) are met. A diagnosis of Bipolar Disorder should only be made if the symptoms clearly exceed the autistic symptoms in quality and if a corresponding phasic course of the central symptoms of Bipolar Disorder can be seen. If the development of a bipolar disorder is suspected, an inpatient admission should be considered at any age in order to be able to offer the necessary protection as well as the necessary long-term behavioural observation. If the diagnosis is confirmed, the approach should be analogous to the AWMF S3 guidelines for the treatment of bipolar disorder (AWMF, 2019a). In acute comorbid bipolar disorder, inpatient therapy should be provided.
	Strong consensus (>95% agreement)

C. 7.11 Personality disorders

Statement 7: C.7.11.1 Treatment of comorbid personality disorders in adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
	Adults with and without intelligence impairment To date, there are no studies on the effectiveness of therapy for personality disorders in autism spectrum disorder. Therefore, no recommendation can be made. Further studies are necessary.
	Strong consensus (>95% agreement)

C. 7.12 Addictive disorders

Recommendation 102: C.7.12.1 Treatment of comorbid addictive disorders in adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Adolescents and adults with and without intelligence impairment** In the case of diagnosed addiction (ICD-10 F1), the therapy should be the same as for addicts without autism spectrum disorder, but taking into account the special needs of people with autism spectrum disorder in terms of structuring, clarity, proceeding according to plan, and positive reinforcement. The basic procedure should be based on the corresponding available AWMF S3 guidelines on the different addictive disorders.
	Consensus (>75-95% agreement)

C. 7.13 Abnormal habits and impulse control disorders; especially pathological gambling and pathological media consumption

Recommendation 103: C.7.13.1 Treatment of comorbid, abnormal habits and impulse control disorders; in particular, pathological gambling and pathological media use in children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 6: Which therapeutic methods are available for which indications in ASD and what is their evidence? TSF 7: Which therapeutic procedures have been shown to be ineffective? TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	**Children, adolescents and adults with and without intelligence impairment** To date, there are no evaluated therapeutic approaches to pathological media use for people with autism spectrum disorder. A behavioural analysis should always be carried out to find out the individual triggering and maintaining factors for the behaviour as well as its short- and long-term consequences. A combination of motivational building to develop individually appropriate academic, vocational, social, and daily living skills and to reduce pathological media use, as well as external control of media availability, can be used therapeutically. If pathological media consumption or pathological gambling behaviour is present, appropriate counselling centres should be consulted and treatment specific to these symptoms should be initiated. If other comorbid disorders are also present, a day-care or inpatient treatment setting should be considered. [To treat impulse control disorders, the interventions listed in C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder and C. 7.2 Attention deficit/Hyperactivity Disorder (ADHD) / hyperactive behaviour behavior should be implemented].
	Strong consensus (>95% agreement)

C.8 Crisis intervention

Recommendation 104: C.8.1 Crisis intervention for children, adolescents and adults with and without intellectual disabilities (consensus-based)

	TSF 9. what specific methods of crisis intervention, e.g. in stressful situations, suicidality and others exist?
KKP	**Children, adolescents and adults with and without intelligence impairment** In the case of an acute crisis, stabilisation (e.g. through de-escalation strategies, reduction of excessive demands or creation of possibilities for retreat) should first be carried out in combination with a prompt differentiated behavioural analysis to identify possible causes and perpetuating factors in order to be able to apply targeted interventions. Crisis intervention should be carried out by a very reduced number of people known to the person with autism spectrum disorder in an institution known to them. To make this possible, individual crisis intervention plans with successive interventions and crisis passports for people with autism spectrum disorders should be developed at an early stage. If an inpatient admission to a child -and adolescent- or adult psychiatric facility is necessary, care should be taken to ensure that staff are trained in dealing with people with autism spectrum disorder (see above). A small number of reliable and stable contact persons ("reference care") with a calm charisma should interact with the person with autism spectrum disorder. As with other mental disorders, the legal framework must be observed in order to avoid coercive measures. It is helpful, for example, to provide a place of retreat and - if necessary - early medication to reduce aggressive behaviour. As a preventive measure in acute crises with aggressive behaviour, the therapy methods described in detail in C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder should be used in particular. As

	a preventive measure in acute crises with suicidal tendencies, therapy methods should be used in particular which are described in chapter C. 7.3 Anxiety disorders and C. 7.4 Depressive episodes, recurrent depressive disorder are presented.
	Strong consensus (>95% agreement)

C. 9 Day care or inpatient therapy

Recommendation 105: C.8.1 Partial inpatient/inpatient therapy for children, adolescents and adults with and without intellectual impairment (consensus-based)

	TSF 13: When is inpatient or day-care therapy indicated? Which specific methods of (partly) inpatient therapy of mental comorbidities exist? Which framework conditions are helpful?
KKP	**Children, adolescents and adults with and without intelligence impairment** The indication for partial inpatient or inpatient treatment is given for people with autism spectrum disorders, as for people with other mental disorders, when outpatient therapy does not lead to sufficient success, (partial) inpatient therapy promises better therapeutic success and the specific conditions of the multidisciplinary team of hospital treatment are needed for therapeutic success. This is usually (but not exclusively) the case in the presence of severe comorbid mental and/or physical illnesses in people with autism spectrum disorder. In addition, (partial) inpatient therapy should take place at an early stage in the absence of school attendance (despite compulsory school attendance) in childhood-and adolescence. After a crisis intervention, (partial) inpatient therapy should be offered for stabilization, analysis of the triggering conditions, diagnosis and therapy of possible comorbid mental illnesses.

	The early, intensive treatment in the context of (partial) inpatient therapy also has the goal of reducing a chronification of the comorbid mental disorder with subsequent deterioration of the social integration and participation of the person with autism spectrum disorder. Staff in hospital emergency rooms and in clinics should be trained with regard to the special features of crisis intervention and hospital treatment for people with autism spectrum disorder (see C.8 Crisis intervention above). For (partial) inpatient therapy, the appropriate framework conditions should be created (daily structure, clarity, individual appropriate language, visual support, group therapy with other persons with autism spectrum disorder, possibilities for withdrawal, etc.). The therapy methods recommended in chapters C.4 - C.7 should also be used in (partially-) inpatient treatment according to their specific indication and objective. Specific concepts for the (partially) inpatient treatment of people with autism spectrum disorder should be developed and validated, taking into account the particularities and specific needs of people with autism spectrum disorder.
	Strong consensus (>95% agreement)

C.10 Involvement of families, relatives, schools and employers

C. 10.1 Role of family and relatives

Recommendation 106: C.10.1.1 Role of families and relatives in childhood and adolescence, with and without intellectual impairment (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	Psychosocial support services should be oriented towards the subjective needs of parents and relatives, include help at all levels (psychological, psychoeducational, material help) and be available at all stages of life-, on all topics and in -line with needs. **Childhood and adolescence with and without intelligence impairment** Parents or guardians or primary caregivers of affected children should be involved in therapeutic interventions. If possible, the adolescent concerned should have a say in the involvement of the guardians of adolescents. As guardians, they must be informed about and consent to any intervention. Psychoeducation either in a group or individually regarding the clinical picture of autism spectrum disorder including possible comorbid diseases should be offered to all parents/primary caregivers in the individually necessary detail after the child's diagnosis. In **preschool age,** parents should be involved in the therapy according to the available, recommended therapy approaches with high evidence (see above C.4 - C.7) and systematically instructed in the supportive interaction with the child, but without becoming therapists themselves. In **elementary school and adolescent age,** parents should be encouraged to complete homework assigned in a child's group or individual therapy (see above. C. 4.2 Social interaction and communication ; C. 7.3 Anxiety disorders ,

	C. 7.4 Depressive episodes, recurrent depressive disorder), to promote the generalization in everyday life of the behaviors learned in therapy. If oppositional or aggressive behaviors are present in the child/adolescent with autism spectrum disorder, parents should be offered the parent training recommended in C. 7.1 Oppositional and aggressive behaviour/Oppositional Defiant Disorder If individually requested by parents, primary caregivers, siblings, or other relatives, individual psychoeducation and counseling should be provided regarding issues related to managing the child/adolescent with autism spectrum disorder. Siblings should be offered appropriate support and psychoeducation (individually or in groups).
	Strong consensus (>95% agreement)

Recommendation 107: C.10.1.2 Role of families and relatives for adults with and without intellectual disabilities (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	**Adults with and without intelligence impairment** If parents have taken over the legal care of the person with autism spectrum disorder, they should be informed about and consent to any intervention. They may be involved in any type of intervention in this case. If parents have not taken over the legal care, then parents and other relatives can be involved in any form of therapy at the request of the person with autism spectrum disorder (or the respective caregiver in the case of care).
	Consensus (>75% - 95% agreement)

Recommendation 108: C.10.1.3 Research on psychosocial support across the lifespan (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	Further research will be carried out on the psychosocial support needs of families and relatives - especially those of siblings and partners.
	Strong consensus (>95% agreement)

C. 10.2 Support in kindergarten and school

Recommendation 109: C.10.2.1 Concrete support measures during kindergarten and school (consensus-based)

	TSF 12. which psychosocial interventions are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, education and training, cultural and social participation)? (HR]
KKP	**Childhood and adolescence with and without intelligence impairment** Teachers and educators should receive training (or comprehensive information) on autism spectrum disorders and skills in dealing with people with ASD. In terms of content, knowledge is to be imparted on the following subjects: – Symptomatology and course of ASD, – common comorbidities, - mental health problems such as anxiety disorders, obsessive-compulsive disorder, and depression, - Physical problems, such as epilepsy, - Sleep disorders, – other neurodevelopmental disorders such as AD(H)S, – Importance of key transitions such as moving to school/secondary school and/or changing caregivers, – the self-experience of children and adolescents with ASD,

- The impact of ASD on the family (including siblings) or other caregivers.

Nursery school teachers should be informed about the autism-specific support of the respective child and, depending on the requirements of the respective intervention, should be trained or at least informed using the successful interaction methods analogous to the parent training described in C. 4 Therapies to improve autism-specific symptoms If a child attends an integrative kindergarten with a high staffing ratio, the additionally employed curative, special or other pedagogical staff employed in these kindergartens should also be informed about and also trained in the effective therapy methods from Chapter C.4 -C.5 and use these in the amount of time available to them to work with the child in the integrative kindergarten.

The possible measures should be individually designed support, the indication of which should be examined in the course and adapted to the individual circumstances. The aim of these measures is to compensate for the disadvantages caused by the illness. In the case of performance requirements, for example, the aim is to offer differentiated organisational and methodological measures that take appropriate account of the illness-related disadvantages. However, the technical requirements should not be reduced. For school children, for example, this could be simplified work instructions, worksheets and tasks, as well as the formulation and implementation of disadvantage compensation measures geared to the individual (e.g. extension of the working time, individually designed workplace, if necessary the possibility of using an extra (low-stimulus) room, hearing protection, etc.). For kindergarten children, for example, clearly formulated instructions for action, visualised daily structuring, clear and small-step instructions in the organisation of play and handicraft activities geared to the individual child, if necessary the possibility of being able to use a (low-stimulus) extra room, hearing protection, etc. would be possible".

If a child/adolescent attends a special type of school with special educational equipment, the special educators working in these schools should be

	informed and, if possible, also trained with regard to the effective therapy methods from Chapter C.4-C.7 and use them to achieve appropriate individual therapy goals within the time frame of school support. The German social system finances the use of integration assistants or school companions in kindergarten and lessons to promote the social participation of children and young people. The use of integration aides or school companions should be individual and for the achievement of clearly defined goals over a limited period of time. The indication for the use should be reviewed regularly and reduced in the course. The independence of the respective child/adolescent should always be promoted. Integration aides/school companions should be trained in dealing with the child/adolescent with autism spectrum disorder and know the approaches and basics of effective therapy methods from chapter C. 4 Therapies to improve autism-specific symptoms A support plan corresponding to the special needs of the child/pupil with an ASD (in the case of pupils, compensation for disadvantages) should be formulated in writing in cooperation with specialists and implemented in a binding manner. The support plan or compensation for disadvantages should be reviewed regularly and modified and/or supplemented according to the development of the person with ASD.
	Strong consensus (>95% agreement)

Recommendation 110: C.10.2.2 Facilitate educational pathways (consensus-based)

	TSF 12. which psychosocial interventions are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, education and training, cultural and social participation)? (HR]
KKP	The choice of occupation and vocational training should be based on the individual strengths of the person with ASD and a freely chosen activity on the general labour market should be aimed for in the sense of the UN Convention on the Rights of Persons with Disabilities. In particular, to avoid comorbid illnesses, the need for support should be determined in accordance with the BtHG and individually adapted information on support options and autism-specific offers should be provided. If necessary, people

	with ASD should receive concrete support and individual compensation for disadvantages. This concerns in particular application processes, daily structures, integration into social structures, the organisation of internships and, at the request of the person with ASD, the clarification of the training places or the university.
	Strong consensus (>95% agreement)

Recommendation 111: C.10.2.3 Concrete support measures during studies (consensus-based)

	TSF 12. which psychosocial interventions are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, education and training, cultural and social participation)? (HR]
KKP	**Adults without intelligence impairment** *(University) studies* With regard to the (planned) commencement of university studies, the following assistance is to be offered, if required and individually adapted, and the persons concerned are to be given concrete support in making use of this assistance: – Support in choosing a course of study and in the application process; – Support in the phase of beginning studies; – Counselling centres for chronically ill and disabled students and similar services; – Study Support; – Compensation for disadvantages (e.g. more flexible timetables, fewer hours per semester, examinations in separate rooms, longer examination times, other examination modes e.g. written instead of oral, alternative performance certificates for group work and presentations, individual timetables for laboratory rotations etc.); – Support during the thesis phase; – Support in the search for and completion of compulsory internships (e.g. contacting potential internships, support during the first days of the internship, if necessary informing the internship place about ASS).
	Strong consensus (>95% agreement)

Recommendation 112: C.10.2.4 Recommendation to research on support services in kindergarten, school and university (consensus-based)

	TSF 12. which psychosocial interventions are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, education and training, cultural and social participation)? (HR]
KKP	As there are hardly any studies on the topic of supporting people with ASD in higher education so far, further research is strongly recommended.
	Strong consensus (>95% agreement)

C. 10.3 Support regarding the work

Recommendation 113: C.10.3.1 Support relating to work with young people and adults without intellectual impairment[4](evidence-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
Degree of Recommendation: **B** **0**	**Adolescents and adults <u>with</u> and <u>without</u> intelligence impairment** In order to increase their chances when applying for a job, adolescents and young adults who want to apply for an apprenticeship or a job should receive specific job application training on request, which includes role plays and concrete exercises. The programme can be supported by video-based training in a virtual environment. In the application training, attention should also be paid to aspects of the fit between the individual's aptitude and the desired training/occupation. **Supplement for people with autism spectrum disorder <u>with</u> intelligence reduction**

[4] Although TSF 12 is a hand search question (see guideline report), it was decided to formulate an evidence-based recommendation in this particular case, as the general systematic search for all discoverable interventions for the treatment and support of people with ASD also found literature on support regarding job search.

KKP	Adolescents and adults with intellectual disabilities should be offered application support measures adapted to their cognitive skills.
Evidence Level: **2**	**Sources**: Wehman et al., 2017; Strickland, Coles & Southern, 2013.
	Strong consensus (>95% agreement)

Recommendation 114: C.10.3.2 Support relating to work with young people and adults with intellectual disabilities (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	**Adolescents and adults <u>without</u> intelligence impairment** Young people and adults without intellectual disabilities who are unable to obtain training on the open labour market should receive individually guided support regarding training or integration with an ASD-specific employer. This concerns continuous guidance of: – Dealing with superiors, – Self-structuring and independent work, – Assumption of responsibility and – social interaction with work colleagues. In addition, the employer or supervisors should be advised and supported on how to deal with the person with ASD before the start of work. Informing work colleagues - with the involvement of the young person or adult with ASD - can also be considered. In addition, (working-) conditions and assistance oriented to individual needs should be examined in terms of "accessibility" within the framework of an assistance plan before taking up an occupation: When designing the workplace, hypo- and hypersensitivities of the person with ASD should be asked about and taken into account.

	The workplace, work processes and working hours should be consistent, and break times should be individually arranged in such a way that they are conducive to regeneration. The workplace should be well and clearly structured. Flexible working time models and home office should be made possible. Adolescents and adults with ASD should be offered vocational support, if needed, which prepares them for training or employment through guided internships in various fields and special schooling. **Adolescents and adults <u>with</u> intelligence impairment** Adolescents and adults with intelligence impairment should be offered measures adapted to their cognitive skills and socio-emotional abilities to support them with regard to training or vocational integration within the framework of an individual needs-oriented assistance plan agreed with the person concerned. In principle, the above-mentioned factors for persons without intelligence impairment also apply here.
	Strong consensus (>95% agreement)

Recommendation 115: C.10.3.3 Vocational rehabilitation (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	In the case of unemployment and impending disability, it should be individually assessed whether a vocational rehabilitation measure can be considered. This should be adapted to the needs, abilities and strengths of people with ASD. In addition, it should be taken into account that in ASD there can be a large discrepancy between the social and everyday practical, motor and cognitive abilities, which can lead to the fact that the occupational aptitude and performance of people with ASD is underestimated on the one hand and overestimated on the other hand. Employees of rehabilitation measures should receive information about ASD.

	Strong consensus (>95% agreement)

Recommendation 116: C.10.3.4 Recommendation to research on vocational rehabilitation (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	The overall study situation on vocational rehabilitation is poor; further research is strongly recommended.
	Strong consensus (>95% agreement)

C. 10.4 Support regarding the housing situation/housing

Recommendation 117: C.10.4.1 Support with regard to housing situation/housing (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	**Children and adolescents <u>with</u> and <u>without</u> intelligence impairment** If living together in the family is not possible, forms of assisted living should take place. These should meet the needs of the child/adolescent and allow for an individually tailored form of education. The aspects listed below (recommendation for adults) should be observed accordingly for children and adolescents. **Adults <u>without</u> intelligence impairment** If an independent life is not possible for adults without intellectual impairment, care specific to everyday life should be provided (on an outpatient or inpatient basis). The needs and wishes of the person concerned should be taken into account as far as possible. The following aspects should be considered in this case (analogous to the recommendations of the NICE adult guidelines p. 358 ff), which also apply to adults with intelligence impairment and are summarised below: **Adults <u>with</u> and <u>without</u> intelligence impairment** If outpatient assisted living or living in a residential home is necessary, the following should be observed or ensured in the facilities/support services: – Support in the design of the environment and everyday life - Daily structure and staff continuity; where appropriate, guidance through structured programmes with individual choices communicated in a visualised way; where necessary,

	reduction of stimuli; opportunities for withdrawal; integration into local community, – Staff knowledge, – Good knowledge of working with adults with autism spectrum disorder, – adequate handling of challenging behaviour and de-escalation management, – The skills necessary to properly assess the support needs of adults with autism spectrum disorder, – reliable and predictable behavior, - legal guardians and, at the request of the person concerned, relatives must be involved in the planning and implementation of outpatient or inpatient residential care.
	Consensus (>75% - 95% agreement)

C. 10.5 Support regarding leisure behaviour

Recommendation 118: C.10.5.1 Support for recreational behaviour among children and young people (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	Children and young people should be supported in developing active and balanced leisure behaviour that meets their individual needs. One component should be the promotion of social interaction by means of autism-specific group or individual therapy (s. ch. C. 4.2 Social interaction and communication). Furthermore, group offers within the framework of general offers (school, community, sports clubs, institutions for people with disabilities, etc.) for children and adolescents without autism spectrum disorder can be helpful. Similarly, temporary individual support can be provided by adults for active leisure activities. This should take place when group participation is not possible. In general, the aim should be that the child/adolescent spends his/her free time with peers. Contents of an offer for leisure time activities in the group should be: – Focus on the interest of the participants; – regular meetings at which a specific leisure activity is carried out; – group therapy should be carried out by therapists trained in the treatment of children and adolescents; – emphasis should be placed on structure and support.
	Strong consensus (>95% agreement)

Recommendation 119: C.10.5.2 Support for adult recreational behaviour (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	According to the NICE adult guideline (p221 ff), the following is recommended: If an adult with autism spectrum disorder is socially isolated, group-based provision to promote active leisure behaviour may be offered. Alternatively, if group participation is not possible, individual guidance on active leisure can be provided. Contents of an offer for leisure time activities should be: – Focus on the interest of the participants; – Regular meetings at which a specific leisure activity is carried out; – If group therapy is provided, it should be guided by someone who is well versed in autism spectrum disorder; – There should be an emphasis on structure and support.
	Strong consensus (>95% agreement)

C. 10.6 Role of self-help

Recommendation 120: C.10.6.1 Role of self-help (consensus-based)

	TSF 12. which psychosocial support services are necessary and/or useful (e.g. housing situation, employment, social environment, structuring of daily life, school and vocational training, cultural and social participation)?
KKP	Professionals who care for and treat people with autism spectrum disorder should be aware of regional and national self-help services. Professionals and self-help groups and organizations should strive to work together to learn from each other and improve the care of people with ASD and their families. **Children and adolescents <u>with</u> and <u>without</u> intelligence impairment**

	Depending on their needs and developmental stage, children and adolescents with autism spectrum disorder, their families and caregivers should be provided with (contact) information on self-help services (self-help organizations and groups, personal counselling by other affected persons) that enable them to meet other affected persons (children and adolescents with autism spectrum disorder, families with members with autism spectrum disorder) and be supported in seeking out these services. **Adults <u>with</u> and <u>without</u> intelligence impairment** Adults with autism spectrum disorder should be provided with (contact) information about self-help services (e.g. self-help organisations and -groups, personal counselling by other people with autism spectrum disorder), adapted to their needs and level of functioning, and be encouraged and supported to seek such services or to participate in self-help group meetings and activities. Relatives (families, partners, siblings, other caregivers) of adults with autism spectrum disorder should also receive (contact) information about self-help services available for their target group.
	Strong consensus (>95% agreement)

C.11 Harmful and ethically questionable procedures

Recommendation 121: C.11.1 Procedures that are harmful to health or ethically questionable (consensus-based)

	TSF 8: What adverse effects occur with the different therapeutic procedures?
KKP	The therapies listed below should never be used in ASD as a therapy to reduce the core symptoms or accompanying behavioral problems of autism spectrum disorders in childhood-, adolescence-, and adulthood, as they are either harmful to health or ethically questionable: – "Drainage therapies", use of chelation formers, – Treatment with chlorine bleach, – Bowel cleansing therapy, – Treatment with hyperbaric oxygen, – All forms of diets without special medical indication, – All forms of food supplements without specific medical indication, – All forms of hormone or enzyme therapies without a specific medical indication, – Additional drug therapies without a specific medical indication that go beyond the recommendations of this guideline, – Stem Cell Therapy, – Stool transplant, – Autologous blood therapy, – Electroconvulsive therapy (Do not use with the goal of improving autism-specific symptoms of social interaction, communication, and stereotypic behavior and special interests. May be used in the absence of efficacy of other evidence-based therapies with the goal of treating recurrent depressive disorder, schizoaffective psychosis, and catatonia according to guidelines), – Detention Therapy, – Packing/Ice-Packing, – Irlen Glasses, – Doman-Delacato therapy,

	– Supported communication, as no efficacy has been shown in RCTs and there is a risk of manipulation.
	Strong consensus (>95% agreement)

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