

Supplement 7 Features of Autism - Taken From NICE guidelines ([Overview](#) | [Autism spectrum disorder in under 19s: recognition, referral and diagnosis](#) | [Guidance](#) | [NICE](#))

Appendix 1 Features suggesting possible autism in preschool children (or equivalent mental age)

Social interaction and reciprocal communication behaviours

Spoken language

- Language delay (in babble or words, for example less than ten words by the age of 2 years).
- Regression in or loss of use of speech.
- Spoken language (if present) may include unusual:
 - non-speech like vocalisations
 - odd or flat intonation
 - frequent repetition of set words and phrases ('echolalia')
 - reference to self by name or 'you' or 'she/he' beyond 3 years.
- Reduced and/or infrequent use of language for communication, for example use of single words although able to speak in sentences.

Responding to others

- Absent or delayed response to name being called, despite normal hearing.
- Reduced or absent responsive social smiling.
- Reduced or absent responsiveness to other people's facial expressions or feelings.
- Unusually negative response to the requests of others (demand avoidant behaviour).
- Rejection of cuddles initiated by parent or carer, although may initiate cuddles themselves.

Interacting with others

- Reduced or absent awareness of personal space, or unusually intolerant of people entering their personal space.
- Reduced or absent social interest in others, including children of his/her own age – may reject others; if interested in others, may approach others inappropriately, seeming to be aggressive or disruptive.
- Reduced or absent imitation of others' actions.
- Reduced or absent initiation of social play with others, plays alone.
- Reduced or absent enjoyment of situations that most children like, for example, birthday parties.
- Reduced or absent sharing of enjoyment.

Eye contact, pointing and other gestures

- Reduced or absent use of gestures and facial expressions to communicate (although may place adult's hand on objects).

- Reduced and poorly integrated gestures, facial expressions, body orientation, eye contact (looking at people's eyes when speaking) and speech used in social communication.
- Reduced or absent social use of eye contact, assuming adequate vision.
- Reduced or absent joint attention shown by lack of:
 - gaze switching
 - following a point (looking where the other person points to – may look at hand)
 - using pointing at or showing objects to share interest.

Ideas and imagination

- Reduced or absent imagination and variety of pretend play.

Unusual or restricted interests and/or rigid and repetitive behaviours

- Repetitive 'stereotypical' movements such as hand flapping, body rocking while standing, spinning, finger flicking.
- Repetitive or stereotyped play, for example opening and closing doors.
- Over-focused or unusual interests.
- Excessive insistence on following own agenda.
- Extremes of emotional reactivity to change or new situations, insistence on things being 'the same'.
- Over or under reaction to sensory stimuli, for example textures, sounds, smells.
- Excessive reaction to taste, smell, texture or appearance of food or extreme food fads.

Appendix 2 Features suggesting possible autism in primary school children (aged 5 to 11 years or equivalent mental age)

Social interaction and reciprocal communication behaviours

Spoken language

- Spoken language may be unusual in several ways:
 - very limited use
 - monotonous tone
 - repetitive speech, frequent use of stereotyped (learnt) phrases, content dominated by excessive information on topics of own interest
 - talking 'at' others rather than sharing a two-way conversation
 - responses to others can seem rude or inappropriate.

Responding to others

- Reduced or absent response to other people's facial expression or feelings.
- Reduced or delayed response to name being called, despite normal hearing.
- Subtle difficulties in understanding other's intentions; may take things literally and misunderstand sarcasm or metaphor.
- Unusually negative response to the requests of others (demand avoidant behaviour).

Interacting with others

- Reduced or absent awareness of personal space, or unusually intolerant of people entering their personal space.
- Reduced or absent social interest in people, including children of his/her own age – may reject others; if interested in others, may approach others inappropriately, seeming to be aggressive or disruptive.
- Reduced or absent greeting and farewell behaviours.
- Reduced or absent awareness of socially expected behaviour.
- Reduced or absent ability to share in the social play or ideas of others, plays alone.
- Unable to adapt style of communication to social situations, for example may be overly formal or inappropriately familiar.
- Reduced or absent enjoyment of situations that most children like.

Eye contact, pointing and other gestures

- Reduced and poorly integrated gestures, facial expressions and body orientation, eye contact (looking at people's eyes when speaking) and speech used in social communication.
- Reduced or absent social use of eye contact, assuming adequate vision.
- Reduced or absent joint attention shown by lack of:
 - gaze switching
 - following a point (looking where the other person points to – may look at hand)
 - using pointing at or showing objects to share interest.

Ideas and imagination

- Reduced or absent flexible imaginative play or creativity, although scenes seen on visual media (for example, television) may be re-enacted.
- Makes comments without awareness of social niceties or hierarchies.

Unusual or restricted interests and/or rigid and repetitive behaviours

- Repetitive 'stereotypical' movements such as hand flapping, body rocking while standing, spinning, finger flicking.
- Play repetitive and oriented towards objects rather than people.
- Over-focused or unusual interests.
- Rigid expectation that other children should adhere to rules of play.
- Excessive insistence on following own agenda.
- Extremes of emotional reactivity that are excessive for the circumstances.
- Strong preferences for familiar routines and things being 'just right'.
- Dislike of change, which often leads to anxiety or other forms of distress (including aggression).
- Over or under reaction to sensory stimuli, for example textures, sounds, smells.
- Excessive reaction to taste, smell, texture or appearance of food or extreme food fads.

Other factors that may support a concern about autism

- Unusual profile of skills or deficits (for example, social or motor coordination skills poorly developed, while particular areas of knowledge, reading or vocabulary skills are advanced for chronological or mental age).
- Social and emotional development more immature than other areas of development, excessive trusting (naivety), lack of common sense, less independent than peers.

Appendix 3 Features suggesting possible autism in secondary school children (older than 11 years or equivalent mental age)

Social interaction and reciprocal communication behaviours

Spoken language

- Spoken language may be unusual in several ways:
 - very limited use
 - monotonous tone
 - repetitive speech, frequent use of stereotyped (learnt) phrases, content dominated by excessive information on topics of own interest
 - talking 'at' others rather than sharing a two-way conversation
 - responses to others can seem rude or inappropriate.

Interacting with others

- Reduced or absent awareness of personal space, or unusually intolerant of people entering their personal space.
- Long-standing difficulties in reciprocal social communication and interaction: few close friends or reciprocal relationships.
- Reduced or absent understanding of friendship; often an unsuccessful desire to have friends (although may find it easier with adults or younger children).
- Social isolation and apparent preference for aloneness.
- Reduced or absent greeting and farewell behaviours.
- Lack of awareness and understanding of socially expected behaviour.
- Problems losing at games, turn-taking and understanding 'changing the rules'.
- May appear unaware or uninterested in what other young people his or her age are interested in.
- Unable to adapt style of communication to social situations, for example, may be overly formal or inappropriately familiar.
- Subtle difficulties in understanding other's intentions; may take things literally and misunderstand sarcasm or metaphor.
- Makes comments without awareness of social niceties or hierarchies.
- Unusually negative response to the requests of others (demand avoidant behaviour).

Eye contact, pointing and other gestures

- Poorly integrated gestures, facial expressions, body orientation, eye contact (looking at people's eyes when speaking) assuming adequate vision, and spoken language used in social communication.

Ideas and imagination

- History of a lack of flexible social imaginative play and creativity, although scenes seen on visual media (for example, television) may be re-enacted.

Unusual or restricted interests and/or rigid and repetitive behaviours

- Repetitive 'stereotypical' movements such as hand flapping, body rocking while standing, spinning, finger flicking.
- Preference for highly specific interests or hobbies.
- A strong adherence to rules or fairness that leads to argument.
- Highly repetitive behaviours or rituals that negatively affect the young person's daily activities.
- Excessive emotional distress at what seems trivial to others, for example change in routine.
- Dislike of change, which often leads to anxiety or other forms of distress including aggression.
- Over or under reaction to sensory stimuli, for example textures, sounds, smells.
- Excessive reaction to taste, smell, texture or appearance of food and/or extreme food fads.

Other factors that may support a concern about autism

- Unusual profile of skills and deficits (for example, social or motor coordination skills poorly developed, while particular areas of knowledge, reading or vocabulary skills are advanced for chronological or mental age).

Social and emotional development more immature than other areas of development, excessive trusting (naivety), lack of common sense, less independent than peers

Appendix 4 Factors associated with an increased prevalence of autism

- A sibling with autism.
- Birth defects associated with central nervous system malformation and/or dysfunction, including cerebral palsy.
- Gestational age less than 35 weeks.
- Parental schizophrenia-like psychosis or affective disorder.
- Maternal use of sodium valproate in pregnancy.
- A learning (intellectual) disability.
- Attention deficit hyperactivity disorder.
- Neonatal encephalopathy or epileptic encephalopathy, including infantile spasms.
- Chromosomal disorders such as Down's syndrome.
- Genetic disorders such as fragile X.
- Muscular dystrophy.
- Neurofibromatosis.
- Tuberous sclerosis.

