



Pupils with Physical Disabilities

Scoliosis



Scoliosis



Classroom-based tips (focus on instructional methods)

1. **Provide activities promoting acceptance and support in order to avoid marginalisation**, for instance, discussions on various types of disabilities, and specifically on scoliosis, without making specific references to pupils with scoliosis within the classroom or the school.
2. **Plan suitable activities devised to meet the needs of the pupil, in consultation with the healthcare provider.**
3. **Be aware that school-age children under treatment for scoliosis may need continual positive reinforcement, encouragement and as much independence** as can be safely assumed (Huffman, Fontaine, Price, *Health Problems in the Classroom PreK-6: An A-Z Reference Guide for Educators*, p. 275).
4. **Consider activities/exercises** which can be realised with less physical effort but maintaining same/similar learning objectives as the other pupils in the class. (<http://www.eupd.ro/wp-content/uploads/2011/09/Curriculum.pdf>).
5. **Provide a specific set of teaching materials** for example in digital form so that pupils with scoliosis do not have to carry heavy books in and out of school.
6. **Provide copies of teachers' notes or recorded lectures**, as well as digital notes for pupils using technology.
7. **Provide options for tutoring or extra time to make up assignments and complete tasks.**
8. **Provide options for adapted physical activities after consulting with the pupil's physiotherapist.** Appropriate physical activity is important for pupils with scoliosis. Differentiate goals accordingly; focus on recreation, and not competition or strength building, and modify playing rules and number of players in a team, while maintaining some basic rules. All these aspects related to the increase of accessibility of practicing different sports by pupils with scoliosis, fully require the teacher's creativity, and even that of the players. (Cristea, Ștef, Dragoș, *Adapted Motrical Activities - Theoretical and Methodical Aspects*, 2014).
9. **Ensure ergonomic sitting and positioning in the classroom for pupils with scoliosis and minimise non-ergonomic movements.** Consult the pupil's physiotherapist for specific seating recommendations.
10. **Ensure ergonomic position in computer labs, and make assistive technology adaptations when necessary** (<http://www.eupd.ro/wp-content/uploads/2011/09/Curriculum.pdf>).
11. **Discreetly correct pupil's posture when when necessary in class.**

12. **Be aware of safety concerns such as falls, stairs and loss of balance** associated with children who are wearing special braces or who have had surgery for spine realignment (Huffman, Fontaine, Price, *Health Problems in the Classroom PreK-6: An A-Z Reference Guide for Educators*, p. 275)
13. **Arrange for the child's safe exit procedures from the classroom in case of an emergency.** (Huffman, Fontaine, Price, *Health Problems in the Classroom PreK-6: An A-Z Reference Guide for Educators*, p. 275).



School-based practical tips (focus on instructional methods)

Class Divisions

Ensure appropriate adaptations, accommodations and modifications are made to the instruction given, and other activities, including availability of assistive technology.

Community

1. **Provide for special services in or out of school**, as appropriate such as school counseling and physiotherapy. [Reference: Cristea, Ștef, Dragoș, *Adapted Motrical Activities - Theoretical and Methodical Aspects*]
2. **Find and have available contact details of local and national associations for scoliosis for further information and support.**

Curricular Adaptations

1. Provide opportunities for individualised support and differentiation of the learning process if needed.
2. Ensure appropriate adaptations, accommodations and modifications are made to the instruction given, and other activities, including availability of assistive technology.
3. **Make the physical education class and sports activities in school accessible by adjustment of playing areas** (dimension, surface); equipment modification (lighter balls, balls with sounds), and modification of net height. [Reference: Dana Cristea, Mirela Ștef, Paul Dragoș, *Adapted Motrical Activities - Theoretical and Methodical Aspects*, Oradea, 2014]

Discipline

Monitor the safety of the pupils during their curricular and extra-curricular activities during their classes, breaks and other types of activities.

Parents / Parents' Associations

1. **Arrange meetings between the parents and the staff and other professionals working with the pupils** such as the physiotherapist, so as to learn as much as possible about the diagnosis, the pupil's current level of ability and possible needs during the course of the school year.
2. Facilitate family support and confidence in parenting a child with scoliosis.

Safety

1. Provide access and facilities in order to develop inclusive school projects, events and celebrations for all pupils, providing facilities for those with scoliosis to be able to participate, taking into consideration issues like safety conditions, hall accommodation and traffic in the corridors.
2. **Make sure that, in case of emergency, the evacuation plan allows pupils with scoliosis to get out of the building.**
3. **Make the physical education class and sports activities in school accessible by adjustment of playing areas** (dimension, surface); equipment modification (lighter balls, balls with sounds), and modification of net height. (Dana Cristea, Mirela Ștef, Paul Dragoș, *Adapted Motrical Activities - Theoretical and Methodical Aspects*, Oradea, 2014).
4. Monitor the safety of the pupils during their curricular and extra-curricular activities during their classes, breaks and other types of activities.

School Breaks

Monitor the safety of the pupils during their curricular and extra-curricular activities during their classes, breaks and other types of activities.

School Celebrations

Provide access and facilities in order to develop inclusive school projects, events and celebrations for all pupils, providing facilities for those with scoliosis to be able to participate, taking into consideration issues like safety conditions, hall accommodation and traffic in the corridors.

School Projects

Provide opportunities for individualised support and differentiation of the learning process if needed.

Pupil Support

1. **Provide for special services in or out of school**, as appropriate such as school counseling and physiotherapy. (Cristea, Ștef, Dragoș, *Adapted Motrical Activities - Theoretical and Methodical Aspects*)
2. **Arrange meetings between the parents and the staff and other professionals working with the pupils** such as the physiotherapist, so as to learn as much as possible about the diagnosis, the pupil's current level of ability and possible needs during the course of the school year.
3. Facilitate family support and confidence in parenting a child with scoliosis.
4. Provide opportunities for individualised support and differentiation of the learning process if needed.
5. **Allow time and space for pupils with scoliosis that may temporarily use splints or other similar devices, to adjust and adapt.**
6. **Provide individual support for pupils with scoliosis that may have missed school for therapies and or medical operations.**
7. **Find and have available contact details of local and national associations for scoliosis for further information and support.**

Technology

Ensure appropriate adaptations, accommodations and modifications are made to the instruction given, and other activities, including availability of assistive technology.

Supportive Literature

Definition: *Scoliosis* is a three-dimensional deformity that occurs when the spine becomes abnormally rotated and curved sideways. The term "is derived from the Greek word meaning 'crooked' and was used for the first time by Galen (AD 131-201) to describe an 'S-shaped' or 'C-shaped' spinal deformity. Although defined as a lateral curvature, as visualised by plane radiography, the deformity is actually three-dimensional and involves changes in the frontal, sagittal and transverse planes of the spinal column. Patients treated for scoliosis generally belong to one of the three categories" (Kenro Kusumi, Sally L. Dunwoodie, *The Genetics and Development of Scoliosis*, Springer Science, 2009, p. 167). It "can occur in either the upper back or the lower back and very rarely seen in the neck region. The cause for most curvatures of the spine is unknown (idiopathic scoliosis) " (Dolores M. Huffman, Karen Lee Fontaine, Bernadette K. Price, *Health Problems in the Classroom PreK-6: An A-Z Reference Guide for Educators*, p. 275)

Types: "In so-called congenital scoliosis, the structural curvature of the spine is clearly secondary to radiographically visible vertebral malformations and is typically obvious at an early age. Other

patients may have scoliosis as part of their pathological conditions. For example, patients with neurologic and neuromuscular diseases such as Duchenne muscular dystrophy, spinal muscular atrophy, neurofibromatosis, or Charcot-Marie tooth disease may develop from scoliosis possibly due to secondary weakness of the paravertebral muscles. Patients with other syndromes, such as Prader-Willi or CHARGE may develop an adolescent-onset scoliosis for reasons that are not as yet understood. However, the great majority (more than 80%) of scoliosis patients are otherwise healthy, with no obvious coexisting diagnoses or structural alterations of the spinal column. This third class of patients is considered “idiopathic”. (Kenro Kusumi, Sally L. Dunwoodie, *The Genetics and Development of Scoliosis*, Springer Science, 2009, p. 167)

Treatment: About 90% of idiopathic scoliosis cases are mild and only require observation by a doctor every 4 to 6 months until the adolescent has reached full skeletal maturity. If the disease starts to cause a noticeable deformity or is at high risk of doing so, a doctor might prescribe a brace to prevent the advancement of the condition. Bracing is a major time commitment and uncomfortable for adolescents - both physically and emotionally – and is usually not prescribed unless there is a significant risk of the disease progressing. If scoliosis continues to get worse and bracing is either not feasible or not working for the patient, surgery may be considered.

Websites and EU Reports

British Scoliosis Society <http://www.britscoliosissoc.org.uk/>

National Scoliosis Foundation <http://www.scoliosis.org/>

Scoliosis Association (UK) - <http://www.sauk.org.uk/>

National Scoliosis Foundation - <http://www.scoliosis.org/>

Scoliosis Research Society - www.srs.org

Federația Română a Asociațiilor de Fizioterapie – FRAF - <http://rofizioterapie.ro/>

Societatea de Fizioterapie dr. Nicolae Robănescu - <http://societaterobanescu.ro/>

Asociația profesională a fizioterapeuților Muntenia - <https://www.kinetoterapia.ro/>

EU

Accessibility

Act

[http://www.europarl.europa.eu/RegData/etudes/IDAN/2016/571382/IPOL_IDA\(2016\)571382_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2016/571382/IPOL_IDA(2016)571382_EN.pdf)

Stimulais Report - http://cordis.europa.eu/result/rcn/171964_en.html

SCOLIO-SEE Report - http://cordis.europa.eu/result/rcn/176720_en.html

References

Cristea, Dana, Ștef, Mirela, Dragoș, Paul, (2014), *Adapted Motrical Activities - Theoretical and Methodical Aspects*, Oradea - http://www.feisoradea.ro/PDF/curs/Dragos/Activitati%20motrice%20adaptate_curs.pdf

Huffman, Dolores M., Fontaine, Karen Lee, Price, Bernadette K. (2003), *Health Problems in the Classroom PreK-6: An A-Z Reference Guide for Educators*, Corwin Press

Kenro Kusumi, Sally L. Dunwoodie (2009), *The Genetics and Development of Scoliosis*, Springer Science