

Recommendation (new):	3.11 Structured physical exercise and activity should be offered to improve development outcomes, including motor skills and functioning, in children and adolescents with cerebral palsy.	
	Strength of recommendation:	Strong
	Certainty of evidence:	Low

Justification

- Evidence was extracted from one meta-analysis: Liang et al., 2021 (27 RCTs) (74).
- There were large effects favouring treatment for developmental outcomes (fine motor skills; $d = 0.75$; 95% CI: 0.02 to 1.51) and functional outcomes (SMD range 0.76 to 1.00). Smaller but statistically significant effects were also shown for gross motor skills (development; $d = 0.15$; 95% CI: 0.09 to 0.40) and gait speed and muscle strength (functioning; MD = 0.05; 95% CI: 0.00 to 0.10; and MD = 0.92; 95% CI: 0.19 to 1.64, respectively).

Remarks

- Physical exercise using both traditional and digital or virtual formats were shown to be effective for children and adolescents with cerebral palsy.
- Physical exercise or activity included sports games, aerobic exercise, cycling and yoga. The physical exercise or activity could be completed individually or in pairs or groups.
- Physical exercise or activity completed using digital or virtual reality included activity done while playing video games.
- These approaches should be implemented in the context of broader strategies focused on promoting inclusive and enabling environments for all, including children and adolescents with cerebral palsy.

Research gaps

- Limited evidence was available from LMICs.
- More research is needed to assess the benefits of tailored low-cost app-based programmes for promotion of physical exercise in this population.

- Research on low intensity physical activity (e.g. movement breaks) would also help in understanding the extent to which these programmes confer benefit in developmental outcomes.

Implementation considerations

- Structured physical exercise programmes will be available in a variety of settings including educational, rehabilitation, recreation and other community settings.
- Make adjustments to structured physical exercise programmes in order to meet the needs of children and adolescents with cerebral palsy where appropriate. The programme should be adapted to ensure that the physical exercise demands and format match the individual child or adolescent's needs and preferences.
- Take into account negative impacts of environmental barriers, including programme providers' attitudes and physical barriers.
- Ensure that all children and adolescents with cerebral palsy have full access to health- and social-care services, including mental health services.
- Promote access to information about treatment options suitable for the child or adolescent's needs and developmental level, and promote supported decision-making.
- Make arrangements to support children and adolescents and their family and carers during times of increased need and transitions, such as puberty and starting or changing schools.
- The technology required for digital or virtual reality programmes in the identified studies is not yet available on a mobile device. A specific gaming device is currently required for this activity.