



24-hour Movement Behaviours in the Under Fives

Policy Brief



University of
Strathclyde
Glasgow



Background

Evidence-based national guidelines on time spent in physical activity, screen time and sleep have been available from 2017 (Canada, Australia, New Zealand) ¹⁻³ and internationally from 2019 ⁴.

These guidelines showed the following for children under 5 years of age:

More physical activity is better for body fatness, cognitive development, physical fitness, bone health, cardiometabolic risk factors.

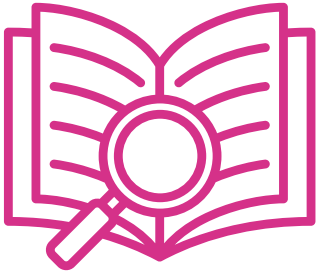
More sleep is better for body fatness, emotional regulation, cognitive development.

Less screen time is better for body fatness, motor development, cognitive development, psychological health and wellbeing.

These three 'movement behaviours' in early life were central to recommendations in the WHO Ending Childhood Obesity Report in 2016 and Implementation Plan in 2017^{5,6} and led to the development of the WHO guidelines on physical activity, screen time, and sleep in the under 5s in 2019.

Screen time and sleep in early life have not been a significant part of Scottish health policy. Lack of policy in these topics has not been due to lack of science or evidence, but possibly due to some combination of lack of advocacy or awareness or resources, limited surveillance, policy inertia, and/or reluctance to address vested interests in screen time.





What the literature says

Screen time is now too high and MVPA too low (compared to guidelines) in children and adolescents in the UK and globally, from age 3-4 years⁷ and across childhood and adolescence⁸.

A recent synthesis of evidence concluded that the 'next 1000 days' (ages 2-5 years) are critical to successful Early Childhood Development (ECD), and influenced critically by physical activity, screen time and sleep during the next 1000 days⁹.

The SUNRISE International Study Europe Group (www.sunrisestudy.org) published recommendations on how to incorporate WHO 2019 Guidelines nationally and across Europe¹¹.



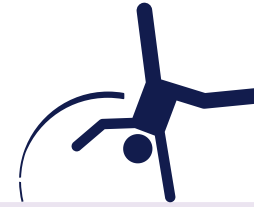
The 2026 Active Healthy Kids Scotland Report Card (www.activehealthykidsscotland.co.uk) found substantial gaps in public health surveillance of physical activity, screen time and sleep in the under 5s in Scotland, resulting in a lack of visibility and potentially lack of public health action¹².

WHO has published useful guidance on how to achieve better physical activity, screen time, and sleep in the under 5s. Recent Scottish health policy has negligible focus on screen time and sleep in the under 5s¹⁰, potentially due to their absence in the UK guidelines¹⁴.





Why this matters



- Physical and mental health, ECD and educational attainment, and reducing inequalities in these outcomes require **focusing on all three movement behaviours in the under 5s.**
- Pandemic preparedness will benefit from healthier levels of physical activity, screen time and sleep in the under 5s
- Physical activity in the **under 5s occurs mainly through play.** Play is a child's right according to the United Nations Convention of the Rights of the Child ¹⁴, which was **incorporated in Scotland's law in 2024.**
- Much of the public discourse has related to social media and adolescents, but screen time in the under 5s is a neglected opportunity in Scottish public health.



Key Recommendations



Incorporation and sharing of the WHO movement behaviour guidelines for the under 5s in Scotland. These should be updated periodically.



Increased Scottish health policy focus on the under 5s

Greater emphasis on, and implementation of, all 24-hour movement behaviours.



Better data means better public health.

Improving our public health surveillance (monitoring) of physical activity, screen time and sleep in the under 5s.



About Scotland Moves

Scotland Moves is a national initiative that turns research into action to improve physical activity and health for children and young people from birth to 18. Inspired by and in partnership with ParticipACTION, Scotland Moves aims to use communication and messaging to improve child physical activity and health and reduce inequalities. The initiative builds on the work of Active Healthy Kids Scotland, which reports on the state of physical activity and health among Scotland's children and young people. Find out more at www.scotlandmoves.org.uk and www.activehealthykidsscotland.co.uk.

This policy brief is evidence-based and follows UK National Institute for Health Research guidance.

Contributors



Professor John Reilly



Dr Farid Bardid

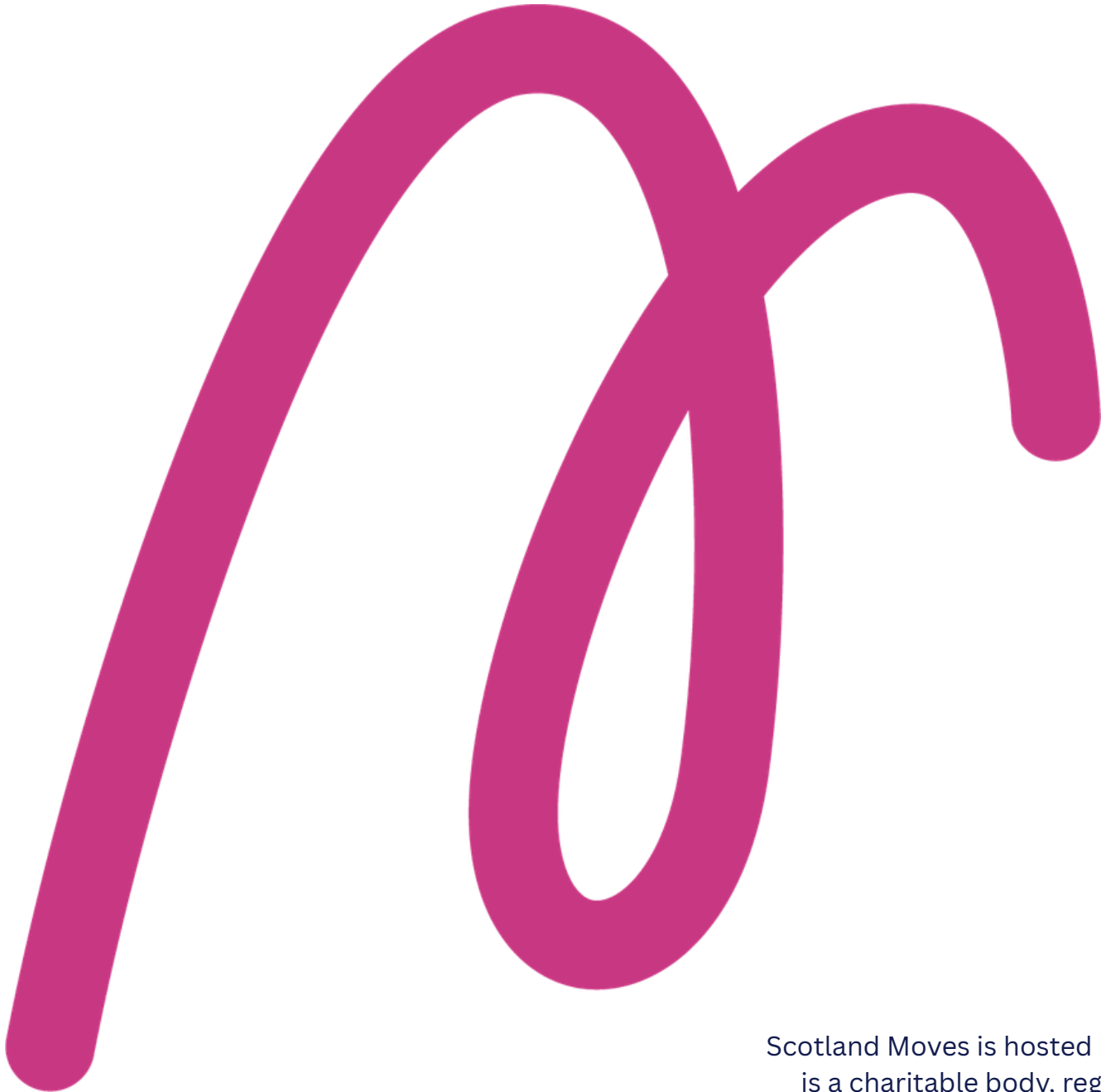


Dr Paul McCrorie



References

1. Tremblay MS, Chaput JP, Adamo KB, et al. Canadian 24-Hour Movement Guidelines for the Early Years (0-4 years): An Integration of Physical Activity, Sedentary Behaviour, and Sleep. BMC Public Health. 2017;17. doi:10.1186/s12889-017-4859-6
2. Okely AD, Gherzi D, Hesketh KD, et al. A collaborative approach to adopting/adapting guidelines - The Australian 24-Hour Movement Guidelines for the early years (Birth to 5 years): An integration of physical activity, sedentary behavior, and sleep. BMC Public Health. 2017;17. doi:10.1186/s12889-017-4867-6
3. Ministry of Health. Sit Less, Move More, Sleep Well : Active Play Guidelines for under-Fives. Ministry of Health; 2017.
4. World Health Organization. WHO Guidelines on Physical Activity, Sedentary Behaviour and Sleep for Children under 5 Years of Age. 2019.
5. World Health Organization. Ending Childhood Obesity Implementation Plan: Executive Summary. 2017.
6. World Health Organization. Report of the Commission on Ending Childhood Obesity. World Health Organization; 2016.
7. Chong KH, Suesse T, Cross PL, et al. Pooled Analysis of Physical Activity, Sedentary Behavior, and Sleep Among Children From 33 Countries. JAMA Pediatr. Published online September 30, 2024. doi:10.1001/jamapediatrics.2024.3330
8. Aubert S, Barnes JD, Demchenko I, et al. Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses From 57 Countries. J Phys Act Health. 2022;19(11):700-728. doi:10.1123/jpah.2022-0456
9. Draper CE, Yousafzai AK, McCoy DC, et al. The next 1000 days: building on early investments for the health and development of young children. The Lancet. 2024;404(10467):2094-2116. doi:10.1016/S0140-6736(24)01389-8
10. Scottish Government, COSLA. Scotland's Population Health Framework 2025-2035. 2025,
11. De Craemer M, Veldman SLC, Azevedo LB, et al. Practical steps needed to achieve impact of the WHO 2019 movement behaviour guidelines for children under the age of 5: the SUNRISE Study Europe Group evaluation. The Lancet Regional Health - Europe. Published online February 2024:100869.doi:10.1016/j.lanepe.2024.100869
12. Reilly JJ, Aubert S, Brazo-Sayavera J, Liu Y, Cagas JY, Tremblay MS. Surveillance to improve physical activity of children and adolescents. Bull World Health Organ. 2022;100(12):815-824.doi:10.2471/BLT.22.288569
13. UNCRC Article 31. <https://www.cypcs.org.uk/rights/uncrc/articles/article-31/>
14. Reilly JJ, Hughes AR, Janssen X, et al. GRADE-ADOLOPMENT process to develop 24-hour movement behavior recommendations and physical activity guidelines for the under 5s in the United Kingdom, 2019. J Phys Act Health. 2020;17(1):101-108. doi:10.1123/jpah.2019-0139



www.scotlandmoves.org.uk



Scotland Moves 

Scotland Moves is hosted by The University of Strathclyde, which
is a charitable body, registered in Scotland, number SC015263.