Evidence Briefing



Physical activity in the early years

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The purpose of this evidence briefing is to provide an overview of the evidence relating to the early years (from birth to five years) and physical activity to help commissioners, policy makers and practitioners influence work in the field. It summarises the importance of physical activity, the factors affecting physical activity levels, the evidence for the effectiveness of interventions to increase physical activity and an overview of the evidence relating to sedentary behaviour in the early years.

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Summary

Physical activity: The evidence

- Children under five who can walk should be physically active for 180 minutes (3 hours) a day, including all activity intensities from light through to vigorous activity.
- Only 9% of children aged 2-4 years in England meet the physical activity recommendations and 84% participate in less than 1 hour per day.
- Physical activity may be beneficial for cardiovascular disease risk factors, weight status, fundamental motor skills, psychosocial wellbeing, cognitive development and school readiness.
- Physical activity and sedentary behaviour patterns persist at a moderate level during early childhood and throughout the transition phase from early childhood to middle childhood.
- Children are more active if their parents/carers are active.
- Children who spend longer periods outside are more active and engage in less screen time compared to children who spend more time indoors.
- Policy and environment in childcare settings can influence early years activity levels.

How to increase physical activity

- Training early years practitioners to integrate physical activity into daily routines can be effective in increasing activity levels.
- Physical activity in childcare settings should be incorporated throughout the day.
- Providing portable play equipment, spending more time outdoors and providing additional play space may result in higher levels of physical activity in early years settings.
- Opportunities should be provided for unstructured play in short regular activity breaks (rather than extending the duration of a single break).

Sedentary behaviour: The evidence

- Children under five should minimise the amount of time spent being sedentary.
- High levels of television viewing may have negative effects on weight status, cognitive development and psychosocial health.
- Children have higher levels of screen time if their families also engage in high levels.
- Sedentary behaviour levels track throughout childhood.

Research

- Additional research is required to expand and improve the quality of the evidence base.

Introduction

In this evidence briefing we focus specifically on children less than five years of age, hereafter referred to as 'under-fives' or 'the early years'.

The early years is increasingly being recognised as a critical period for development shaped largely by early life experiences. Healthy development in early childhood lays the foundation for successful developmental outcomes in later life and consequently impacts several aspects of adult life, eg, health and wellbeing, educational attainment and economic status[1]. In the Marmot review[2], giving every single child the best possible start in life was identified as a key priority for policy makers as a means of reducing health inequalities. Public health agencies' have acknowledged its importance and have committed to ensure that every child has the best start in life in their future strategic plans[3,4].

Historically, little research has examined the role of physical activity and sedentary behaviour for optimal development in the early years. However, there is now increasing interest in this age group, driven in part by a growing awareness that early life experiences impact upon future health outcomes and the rising prevalence of overweight and obesity in this population[5].

In light of the increasing evidence and interest, the 2011 joint Chief Medical Officers' report Start Active, Stay Active for the first time provided UK-wide physical activity and sedentary behaviour guidelines for under-fives[6].

In broad terms, physical activity is defined as "any body movement produced by the skeletal muscles that results in a substantial increase over resting energy expenditure"[7]. Accordingly, we focus here on gross motor physical activity involving the large muscle groups. In the early years, physical activity occurs in numerous forms such as active transportation (eg, walking to the shops) and adult-facilitated activities (eg, dance/swimming lessons) but the predominant source is physically active play. Hereafter in this review, we refer to physical activity in its entirety to encompass all types mentioned above.

Key term: Physically active play

The term 'physically active play' refers to activities that tend to be spontaneous, unstructured and intrinsically motivated, consistent with a conventional definition of play[8]. Engaging in physically active play typically involves the large muscle groups in activities such as running, catching or jumping. It is not synonymous with passive activities, such as playing table-top games or drawing which may be accurately defined as play but typically involves minimal movement or physical exertion.

As defined by the Sedentary Behaviour Research Network, sedentary behaviour is any waking behaviour characterised by a very low energy expenditure in a sitting or reclined position[9]. Common examples of sedentary behaviour in the early years include time spent being restrained, eg, pushchairs, high chairs or car seats and more recently there is an increased focus on screen time including television viewing, computer and tablet use.

In this evidence briefing we examine the role of physical activity and sedentary behaviour in the health and wellbeing of children under five. We attempt to summarise succinctly the available evidence predominantly using reviews from the literature. Where necessary we direct the reader to existing articles, which have dealt with specific issues in detail.

Public Health Guidelines

In 2011, the Chief Medical Officers of the four home countries published physical activity and sedentary behaviour guidelines. For the first time specific guidelines were included for children under five[6]. These guidelines state:

1. Physical activity should be encouraged from birth, particularly through floor-based play and water-based activities in safe environments.
2. Children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes (3 hours) spread throughout the day.
3. All under-fives should minimise the amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).

These recommendations refer to all levels of activity without specific reference to intensity because it is not developmentally appropriate to specify the level of intensity for this age group. The recommended 180 minutes of activity for under-fives is higher than the 60 minutes recommended for older children (5-18 years) partly reflecting that the early years guidelines include activity of all intensities. The 180 minutes also takes into account the well established age related decline in physical activity levels, which means it is valuable to establish high levels in the early years.

Detailed information on the physical activity guidelines is included in the BHFNC interpretation of the physical activity guidelines for walkers and non-walkers at www.bhfactive.org.uk/early-years





Current levels of physical activity

In this section we describe current levels of physical activity in under-fives using data from nationally representative studies.

England: The Health Survey for England 2012[10] included physical activity assessment for children measured by parental report. Parents were asked to report children's physical activity excluding the time that they spend in childcare settings/school. Activity levels as reported by parents are presented as the proportion of children meeting the under-fives physical activity guidelines of at least 180 minutes per day.

- 91% of children aged 2-4 years do not meet the physical activity recommendations.
- Only 9% of boys and 10% of girls aged 2-4 years met the under-fives physical activity guidelines.
- 84% of children aged 2-4 years engaged in low levels of physical activity, classified as less than one hour per day.
- 56% of boys and 58% of girls aged 2-4 years walked/cycled to school once a week, however only a small proportion of these travelled actively every day (25% of boys and 21% of girls).

It should be noted that activity levels were reported by parents and did not capture time spent at childcare settings or school so overall activity levels could be higher when this is taken into account.

In 2008, the Health Survey for England[11] assessed physical activity levels of children over the age of four using accelerometers to provide an objective measure of physical activity throughout the whole day.

- Total accelerometer assessed physical activity for children aged 4-7 years was 397 minutes per day for boys and 375 minutes per day for girls. Approximately 70% of this activity was of light intensity.

Scotland: The Scottish Health Survey 2014[12] included a parental report of children's physical activity (aged 2-15 years). The data provided estimates of the proportion of children who were active for at least 60 minutes on all seven days of the week and therefore is representative of the proportion of children who meet the children and young people (5-18 years) guidelines as opposed to the under-fives guideline.

- 76% of children aged 2-4 years exceeded 60 minutes of physical activity on seven days of the week including the time spent at school.
- A higher proportion of boys exceeded 60 minutes per day of physical activity compared to girls at age 2-4 years (82% vs 71% respectively).

Wales: The Welsh Health Survey includes self-report questions on physical activity for children aged 4-15 years but only presents pooled results for children of all ages and will not be considered in this review.

Northern Ireland: Currently, a nationally representative survey of physical activity in children is not undertaken in Northern Ireland.

As physical activity levels in children under five are not assessed comprehensively at the national level in the UK, it is valuable to examine other sources of information on activity levels in this age group. A meta-analysis[13] assessed physical activity levels of children aged 3-5 years measured using accelerometers. Children spent 42.8 minutes per day in moderate to vigorous physical activity. When the figures are broken down according to gender, boys spend 54.4 minutes and girls spend 45.4 minutes per day in moderate to vigorous physical activity. It is worth noting that light intensity activity was not measured in this study, which contributes towards the guideline figure of 180 minutes in this age group. To date there is a lack of consistency in accelerometer models and thresholds used to quantify activity levels, potentially leading to some disparities in the studies assessed in this meta-analysis.



Physical activity in the childcare setting

A large proportion of children under five are enrolled in childcare, thus it is a potentially valuable setting for the promotion of physical activity in this age group. With this in mind, it is interesting to examine how active under-fives are whilst attending childcare. A review of the literature indicates that physical activity levels in childcare appear generally to be very low; the majority of studies suggest that children accumulate less than 60 minutes of moderate or vigorous physical activity over an 8 hour day[14], although this does not include light activity. For example, a study assessing activity levels by accelerometer in 424 Scottish children aged 3-4 years found that the average time spent in moderate to vigorous activity per day whilst attending childcare was less than 25 minutes[15]. These findings are from a single study findings should be interpreted with caution.

Measuring physical activity

Accurately measuring physical activity is important to evaluate whether efforts to promote activity have been successful. Measuring young children's activity levels brings unique problems due to the sporadic nature of activity and their inability to complete self-report questionnaires.

Methods to be considered when measuring early years physical activity are:

- proxy-reports of children's physical activity by parents or early years practitioners
- direct observation by a trained observer to record a child's behaviour
- pedometers to objectively measure the number of steps taken
- accelerometers which provide an objective measurement of movement counts whenever a child is active.

Choosing the right measurement tool is important due to the range of advantages and limitations associated with each method. This is beyond the scope of the current review, but more comprehensive discussions on measuring physical activity in the early years can be found elsewhere[16,17].

Importance of physical activity for under-fives

In this age group, there are numerous pathways through which physical activity may impact on current and future behaviours and health outcomes[18].

In this section we will explore the immediate impact of physical activity on health and development. We will also explore the relationship between childhood activity levels and adult activity levels. During adulthood the benefits of a physically active lifestyle are well established[19].

Physical health outcomes

Compared with older children or adults, relatively little research has been conducted on the health benefits of physical activity in early years. The evidence base is growing and a greater number of high quality research studies are taking place to examine the benefits of physical activity for health in this age group. Consequently, we are beginning to understand which health outcomes are potentially influenced by physical activity although to date, we cannot ascertain the specific amount and types of physical activity for optimal growth and development.

Unless otherwise cited, the discussion below draws on findings from a review of the literature[20] which provided an overview of the influence of physical activity on several health indicators. It is important to note that no existing evidence indicates that physical activity is harmful to children under five.

Cardiovascular disease risk factors: Early evidence from a small number of low quality studies suggests that physical activity is beneficial for blood cholesterol levels; physical activity in girls was associated with improved measures of total cholesterol and HDL/total cholesterol ratio and in boys was associated with a reduction in triglycerides. An earlier review of the literature[8] found mixed effects of physical activity on blood pressure, both systolic and diastolic.

Weight status: There is strong evidence to suggest that physical activity is inversely associated with weight as measured by BMI[21], suggesting that physical activity has a protective effect against weight gain. Higher levels of physical activity offer the best protection. At this time there is limited evidence exploring the role of physical activity to reduce weight in under-fives.

Musculoskeletal health: Moderate evidence exists to demonstrate that physical activity programmes to promote gross motor skills can improve bone health in the legs but no effect has been found in other areas of the body. The benefits of physical activity on bone health have been observed in both pre-term and normal term children.

Developmental outcomes

The importance of play for cognitive, social and emotional wellbeing in the early years is well established[22]. It is likely that many of the opportunities for development that exist for play in general are also available during physically active play[23].

Below is a summary of the importance of physical activity for developmental outcomes in the early years.

Fundamental motor skills: Strong evidence exists that physical activity is positively associated with fundamental motor skills, all of which influence physical, social and cognitive development[24]. Specifically physical activity is consistently associated with balance, locomotor skills and/or manipulative skills. Physical activity programmes to improve motor skill development have generally been successful, however, due to differences in the programmes the effect of different types of physical activity on motor skill development remains uncertain[25].

Cognitive development: In older children, the link between physical activity and better measures of cognitive development and academic achievement is relatively well established[26], but there is less certainty in the early years. During the first years of life, the brain undergoes a rapid period of development and it is likely that physical activity plays a key role[27]. The benefits of physical activity for brain development

are likely to accrue through a variety of mechanisms including the formation of neural structures necessary for practising physical skills[28]. Emerging evidence from a small number of studies in the early years have linked physical activity with improved language, attention and self-regulation. Importantly, no evidence exists to suggest a negative effect of physical activity on cognitive development[29].

Psychosocial wellbeing: The formation of neural structures as mentioned above are also necessary for children under five to practise social skills and express emotion[28]. Some early research suggests that physical activity in the early years may be beneficially associated with self-concept, self-esteem, behaviour and emotional and social competence[20,30]. However, this evidence is from a small number of studies and at the moment firm conclusions cannot be made regarding the association of physical activity and psychosocial wellbeing[30].

Key term: Psychosocial wellbeing

The presence of higher levels of positive and lower levels of adverse psychological and social attributes and behaviours, eg, social skills, aggression and attention problems[30]. Psychosocial wellbeing encompasses social, emotional and psychological wellbeing.

School readiness: Despite a growing recognition of the importance of school readiness, there is no universal definition. Public Health England recently referred to school readiness as a developmental measure of how prepared a child is to succeed cognitively, socially and emotionally at school[31]. To date no evidence is available examining the effect of physical activity specifically on school readiness, however, as discussed above there is emerging evidence to suggest that physical activity is beneficial for cognitive, social and emotional development.





Tracking of physical activity

Physical activity in the early years may benefit long term health through the persistence of activity from early years into childhood and adulthood where the benefits of a physically active lifestyle are well established[19].

Key term: Tracking

The term tracking refers to the degree to which activity patterns persist over time. High levels of tracking indicate that physical activity patterns are consistent over time, strengthening the case for the promotion of activity early in life. An example of 'good' or 'high' levels of tracking would be a child who is highly active at age three continuing to be highly active up to the age of five and beyond.

Studies assessing tracking found that physical activity levels persist at a moderate level during early childhood (under 6 years) and during the transition phase from early childhood to middle childhood (6-11 years)[32]. A single study tracked individuals from preschool age to adulthood and found that physical activity in early years was somewhat predictive of physical activity in childhood and young adulthood, although tracking was stronger for males than females[33]. Caution must be taken as these results are from a single study and further research is needed to establish the persistence of physical activity from early childhood to adulthood.

Findings from tracking studies support the promotion of physical activity in the early years as a means of establishing healthy habits that are likely to track in later life.

Factors influencing physical activity

Physical activity is a complex, multi-dimensional behaviour influenced by a wide range of factors (typically referred to as correlates) operating at individual, social and environmental levels. Young children have relatively little control over their behaviours, therefore social and environmental characteristics that facilitate or impair physical activity may be particularly important.

Identifying and understanding the factors associated with physical activity helps to identify the individuals and factors that should be targeted by interventions. Influencing these factors through well designed programmes and initiatives offers an opportunity to influence behaviour. Drawing on reviews from the literature[34-36], we summarise below what is currently known about the factors that influence under-fives physical activity.

Biological factors

Sex: Research findings on the effect of sex on physical activity in the early years are generally mixed. Despite early suggestions that boys are more active than girls[35], more recent reviews have revealed no effect[34] or inconsistent findings[36].

Age: In the early years, a review of studies which measured the changes in physical activity over time found inconsistent results for the effect of age on physical activity[36].

Weight status: In the early years current evidence suggests that weight status measured by waist circumference, percentage body fat or body mass index does not affect physical activity[35,36].

Demographic factors

Socioeconomic status: In the studies that were included in the review[34] no association was found between socioeconomic status and physical activity in young children.

Psychological factors

Psychological correlates of physical activity in children under five have been little studied, reflecting the inherent difficulty of assessing these constructs in young children.

Behavioural factors

Sedentary behaviour: Only one study was identified examining the effect of total sedentary behaviour on physical activity levels. Although a negative association was found between sedentary behaviour and physical activity, a lack of studies in this area means that we cannot draw conclusions.

Television viewing: A larger evidence base exists for the effect of television viewing on under-fives physical activity levels revealing mixed findings. Some findings suggest that higher television viewing may be associated with lower physical activity while others have found no association. Thus, the overall effect of television viewing on physical activity levels is inconclusive.

Social/cultural factors

Parental factors: There is moderate to strong evidence that higher parental physical activity is associated with higher child physical activity[37,38]. Although not wholly conclusive, there is some evidence to suggest that children are more physically active if they receive encouragement from their parents[37].

Environmental factors

Time spent outdoors: Studies have consistently shown that children who spend more time outside engage in higher levels of physical activity than those who spend a lot of time inside. When studies compared physical activity levels during a period of indoor vs outdoor time, children were two to three times more active when they were outside[39].

Childcare settings: Emerging evidence suggests that activity levels may vary between childcare settings. In the studies included in the reviews[34,35], policy and environment appear to be influential factors in childcare settings, however the specific aspects that are related to physical activity requires further study.



Summary

To date, relatively few factors have been consistently associated with physical activity. The reviews included in this discussion highlight that this research area is still in its infancy with a limited number of high quality studies available. From the available evidence there is a strong suggestion that under-fives are more active if their parents are active and spend more time outdoors. However, these findings and those included in the discussion above should be interpreted cautiously due to the limited number of strong research studies in this area.

Increasing physical activity

The evidence in this briefing presents a clear case for interventions to increase physical activity in under-fives. Physical activity should be encouraged throughout the day and in all settings. However the main body of literature focuses on interventions to increase physical activity in childcare settings. Although some studies exist examining family and community-based interventions, we will not consider them in this discussion as they are limited in number. Therefore the main focus will be on interventions in the childcare setting.

Practitioner training: Training early years practitioners to integrate physical activity into settings has been consistently effective[40-43] resulting in recommendations that practitioners should be trained to integrate physical activity into usual daily practice[42]. There is insufficient evidence to conclude the optimal training content, frequency or duration.

Environmental approach: From the evidence available, spending more time outdoors[43], providing children with portable play equipment[42] and providing additional playground space[41] have all been associated with increased physical activity. In early years settings modifications to break times to offer additional shorter breaks, as opposed to extending the duration of existing breaks, and offering opportunities for unstructured play have also been identified as effective[42].

Structured physical activity sessions: The effectiveness of structured physical activity sessions for increasing physical activity in early years settings is unclear though some examples identified were successful[42]. Commonalities among successful interventions were 30-45 minutes, 5-6 days per week for up to 12 months[40].

Motor skill development: There is consistent evidence that structured activity sessions delivered in childcare are effective in improving motor skills. Successful interventions focused on fundamental movement skills, body management, physical fitness or dance, delivered in discrete units of 30-45 minutes, 2-3 days per week for up to 20 weeks, however there are some limitations in the design of these studies[40].

Summary

The evidence base strongly supports the incorporation of physical activity throughout the whole day in childcare settings. This can be achieved through providing regular opportunities for unstructured play, providing portable play equipment, including additional shorter breaks, spending time outdoors and training early years practitioners to support and promote physical activity.



Introduction to sedentary behaviour

As mentioned earlier in this review, sedentary behaviours are characterised by a low energy expenditure whilst sitting or lying down (excluding sleeping). Common examples in the early years include watching television, using computers, laptops and tablets and spending time being restrained, eg, pushchairs, high chairs, baby walkers or car seats.

In 2011, the UK Chief Medical Officers' physical activity guidelines specifically included guidance on sedentary behaviour for the first time. It is recommended that children under-five minimise the amount of time spent sedentary for extended periods of time.

The study of sedentary behaviour in the early years is still in its infancy. Drawing conclusions from the current evidence base is difficult because:

- many of the studies have a cross-sectional or 'snap-shot' design which assess sedentary behaviour and associated factors at a single point in time. A limitation of this type of study is that it's not possible to confer whether the specific factor, eg, time spent indoors is a cause or a consequence of sedentary behaviour levels
- studies use different measures for sedentary behaviour, eg, total sedentary time, television viewing or total screen time
- relatively few studies have been conducted in this age group making it difficult to draw robust conclusions.

Below, we will summarise the current evidence surrounding the effect of sedentary behaviour on health, the influencing factors and the persistence of sedentary behaviour from early childhood through to adulthood.

Sedentary behaviour, health and development

Drawing on reviews from the literature, below is a discussion on the effect of sedentary behaviour on health and development in the early years.

Weight status: There is moderate evidence to suggest a negative relationship between television viewing and weight status, as measured by BMI and percentage body fat in under-fives[44].

Cognitive development: A recent review of sedentary behaviour and cognitive development suggests that the type of sedentary behaviour may impact differently on cognitive development in the early years. There is some evidence to suggest that screen time, primarily measured by television viewing, has a negative effect on cognitive development, however other studies have found no associations and therefore a definitive conclusion cannot be drawn. Limited evidence is available to suggest that specific television programme content may impact cognitive development but further research is needed[45].

Psychosocial wellbeing: A small number of studies indicate that higher levels of television viewing are associated with poor measures of psychosocial health, eg, attention problems, aggressive behaviour and classroom engagement[30]. Where television viewing is used as the measure for sedentary behaviour it should be acknowledged that this relationship could be affected by the content of the programmes viewed and further research is needed to understand how violent or non-educational programmes impact psychosocial health. Currently, there are too few studies to draw definitive conclusions.

At this time there is insufficient evidence to indicate whether sedentary behaviour has any effect on motor skill development, bone health or cardiometabolic health indicators[44].

For a more comprehensive review of sedentary behaviour please view the BHFNC sedentary behaviour evidence briefing which can be found at www.bhfactive.org.uk/our-resources

Factors influencing sedentary behaviour

Below we summarise the influence of various factors on sedentary behaviour drawing on recent reviews of the literature[34,46-48].

Biological

Sex: Boys and girls have consistently reported similar patterns of sedentary behaviour.

Age: Some studies suggest that age is positively associated with sedentary behaviour with older children spending more time sedentary, but the findings are not wholly conclusive.

Demographic factors: A number of studies have reviewed the influence of ethnicity and socioeconomic status on sedentary behaviour. Generally, the findings for both factors are mixed.

Social/cultural factors

Family practices and behaviour: The screen viewing practices of families is consistently reported to have a positive effect on young children's screen viewing. This is evident in studies regardless of whether they have measured parental, maternal or whole family screen viewing. The influence of additional family factors such as the size of families, rules and parent education is unclear.

Environmental factors

Time spent outdoors: A review specifically examining the relationship between the time spent outdoors and sedentary behaviour found that young children who spent less time outdoors engaged in more sedentary behaviour. When children were indoors they spent double the amount of time sedentary compared to time spent outdoors[39].

Childcare setting: A recent review examined screen viewing in the childcare setting showing that settings whose staff had higher general education levels were associated with lower screen viewing time. Children who attended an early years setting engaged in less screen time than children who were cared for by a child minder[49].

Summary

This field of research is in its infancy and, due to methodological limitations, very few factors have consistently been associated with sedentary behaviour. From the available evidence, we can confidently say family screen practices influence sedentary behaviour in young children, while no association exists for gender. At this time, the association of other influencing factors remains unclear.



Tracking of sedentary behaviour

As previously mentioned, there is evidence suggesting that behaviour and habits exhibited during the first years of life are somewhat predictive of later life behaviour.

Sedentary behaviour has been found to track moderately during early childhood and throughout the transition period from early childhood to middle childhood (6-11 years), according to a recent review[32].

In comparison to physical activity, sedentary behaviour appears to track more consistently during these phases.

The existence of tracking at a moderate level strengthens the case for interventions to reduce sedentary behaviour in the early years to form strong and healthy behavioural foundations for later life. Further research is required to determine the extent to which sedentary behaviour tracks to adulthood.



Implications for practice

The evidence summarised in this document has important implications for policy makers and practitioners working with the early years and for parents/carers of children this age. Potential action areas for each of these groups are highlighted below.

Potential actions for policy makers

- Policy makers from various disciplines, including education, welfare, planning, health and social development should be aware of the importance of physical activity in the early years when designing policy.
- Physical activity in the early years should be embedded in all relevant policies nationally, regionally and locally.
- Funding should be made available for training for early years practitioners on physical activity.
- Physical activity levels and early years settings provision of physical activity should be measured and evaluated consistently across all early years settings through embedding these elements into existing inspection procedures.
- Maximise existing opportunities, eg, Start4Life and Change4Life to communicate and raise the profile of physical activity in the early years to practitioners and parents.
- Provide safe, attractive and accessible outdoor play facilities in local communities that facilitate physical activity in the early years.
- Provide adequate support and funding to strengthen the evidence base. Specifically to:
    - develop a tool and/or programme to measure the number under-fives meeting physical activity guidelines
    - conduct a cost-benefit analysis of physical activity in the early years to strengthen the case for commissioners
    - develop and evaluate community and family-based interventions aimed at increasing physical activity.

Potential actions for practitioners

- Training organisations should provide training opportunities for early years practitioners by embedding opportunities into existing qualifications and developing additional Continual Professional Development modules.
- Curriculum planners and assessors should prioritise the role of physical activity in early years settings and provide evidence-based guidance on physical activity provision and practice in these settings.
- Health and education sectors should share information about physical activity and its role in child development by demonstrating integrated and purposeful working.
- Possible actions for practitioners include:
    - seek and attend formal training opportunities to improve their physical activity knowledge and skills to embed physical activity into daily practice
    - provide children in their care with enabling environments that promote physical activity and reduce sedentary behaviour
    - provide opportunities and appropriate equipment, eg, wellies and rain coats, to enable children to spend time outdoors regardless of the weather conditions
    - modify break times to encourage shorter more frequent breaks
    - provide lots of small, portable equipment, everyday objects and props for play
    - facilitate and support parents' understanding of the importance of physical activity for their child's wellbeing by providing them with information
    - promote parent and child activity opportunities within settings.

Potential actions for parents

- Seek and organise opportunities to be active with their child.
- Support their child by providing an environment with plenty of opportunities to be active.
- Be physically active with their child on a daily basis, especially in an outdoor environment.
- Send their child to childcare suitably dressed to participate in physical activity both indoors and outdoors.
- Minimise the amount of time children spend watching television or using a computer/tablet.
- Only restrain children in pushchairs, highchairs and other similar equipment when necessary.
- Speak to their early years settings about ways to promote their child's physical activity and reduce sedentary behaviour.



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