

Physical activity in the early years

Practice briefing

NATIONAL CENTRE FOR
SPORT & EXERCISE MEDICINE
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Loughborough
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Introduction

The benefits of physical activity for health and wellbeing across the lifespan have been well reported. Despite this, levels of participation in physical activity remain low across many age groups, and strategies are needed to increase activity levels across the population. Identifying and using strategies that are both effective and cost-effective is important to ensure efficient use of available resources and funding. This briefing brings together the available research evidence as well as practical strategies to outline recommended approaches and actions for effectively promoting physical activity in children in the early years (aged 0-5).

Promoting physical activity in the early years is a relatively new area of research which has only gained momentum in recent years, and there is limited evidence regarding what to do when trying to increase physical activity in this age group. The majority of current research focuses on preventing or tackling obesity rather than specifically increasing physical activity. Furthermore, due to difficulties in measuring physical activity in this age group, research has typically focused on factors wider than just those of changes to children's actual physical activity levels, such as beliefs and attitudes of parents and carers toward physical activity in the early years.

Practitioners working in early years settings and parents and carers strongly influence the physical activity opportunities available for children in the early years. When considering methods for promoting physical activity in children aged five years or younger, it is therefore important to consider the knowledge and attitudes of individuals caring for, or working with, the children as well as equipment being used to facilitate physical activity and the provision of different types of activities within different settings, eg, at home versus in an early years setting.

Key recommendations and practical strategies for how best to incorporate the current evidence

around physical activity promotion in the early years are listed in this briefing, along with several case study examples of how this works in practice. The recommendations are provided in three sections:

1. planning and developing physical activity initiatives
2. working with parents and carers
3. increasing physical activity in early years settings.

In July 2011, the Chief Medical Officers (CMOs) from the four home countries of the UK launched physical activity guidelines for the early years.

For under fives the physical activity guidelines are:

- Physical activity should be encouraged from birth, particularly through floor-based play and water-based activities in safe environments.
- 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.
- All under fives should minimise the amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).

For more information on these guidelines, see the joint CMO report 'Start Active, Stay Active' (2011).

Section 1 – Planning and developing physical activity initiatives

This section outlines the evidence-based recommendations for actions that should be taken, or components that should be put into place, when planning and developing physical activity initiatives for the early years. These recommendations are important regardless of whether the aim of the initiative is to increase physical activity provision in an early years setting or to create a community programme to help parents and carers increase provision at home.

Each evidence-based recommendation is underpinned by research findings and is followed by practical strategies to support implementation.

Develop initiatives that can be embedded in ongoing practice

Research indicates that it is beneficial to develop initiatives that can be embedded into ongoing practice. Such initiatives are less resource intensive and more likely to be sustained long term which, in turn, is more likely to have an effect on physical activity levels.

Strategies

- Identify opportunities within current practice where physical activity promotion can be included.

Develop initiatives which target adults who interact with children in the early years

Adult interaction has been found to facilitate greater levels of physical activity in children under five.

Early years practitioners are in an ideal position to encourage physical activity but research has shown that these practitioners lack confidence and enthusiasm for promoting physical activity.

There is robust evidence on the importance of the parental and carer interaction with children in the early years. Parents and carers and early years practitioners are responsible for the activities in which children engage, for example, they dictate meal times, decide when to put the child to bed and when and where the child is allowed to have opportunities for outdoor and indoor play.

Strategies

- Target activities and resources at those who have responsibility for the child and their day to day activities.
- Work with those who have high levels of contact with children in the early years, such as early years practitioners, parents and carers.

Early movers training

We offer Early movers training for those working with under 5s. This training aims to raise practitioners' confidence to organise enabling environments for physical activity for the children in their care.

This course can be hosted at a venue to suit you anywhere within the UK mainland. For further information, visit www.ncsem-em.org.uk/education/cpd

Consult with parents and carers to identify their needs and barriers

Research has demonstrated that when trying to involve parents and carers of young children in an activity it is important to consult with them to identify the needs and barriers they face.

By addressing the concerns of the parents and carers it may be possible to break down some of the barriers which hinder the parents or carers from attending an activity or educational session or which may be hindering their child from being active. For example, childcare worries are a barrier parents and carers may face when attending educational sessions. While busy work schedules or lack of space or time at home are examples of barriers which may be hindering parents and carers from providing ample opportunities for their child to be active.

Strategies

- Consult parents and carers of the target group prior to starting any activities for either them or their children and identify what motivates them to attend.
- Provide practical solutions for issues that might hinder attendance, for example, provide options for childcare at the venue or make the session child friendly.
- Work with parents and carers during sessions to help identify what may be hindering their child from being active and provide them with practical examples of how to overcome these barriers, for example, if lack of equipment is an issue, use everyday household objects to encourage active play.

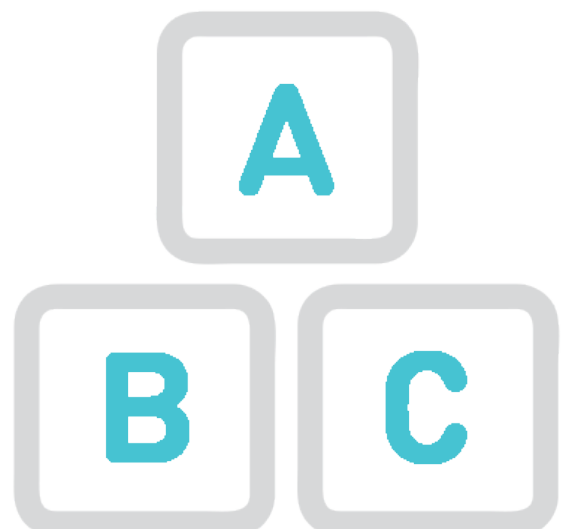
Use an integrated approach to help target information at parents and carers

Studies have demonstrated the benefits of using existing health services to provide information to parents and carers.

There is merit in using people in medical professions, such as health visitors, paediatricians and GPs, to discuss information on physical activity with parents and carers. Using healthcare professionals within the primary healthcare setting to deliver interventions as part of routine service delivery increases the chances of the intervention being sustained and delivered routinely.

Strategies

- Work in partnership with local medical, health and social services in order to send consistent messages on physical activity to parents and carers.
- Use nurseries, children's centres and schools to provide information to parents and carers on the importance and benefits of physical activity and provide ideas on what they can do with their children to help them be more physically active.



Use multi-component approaches when delivering information

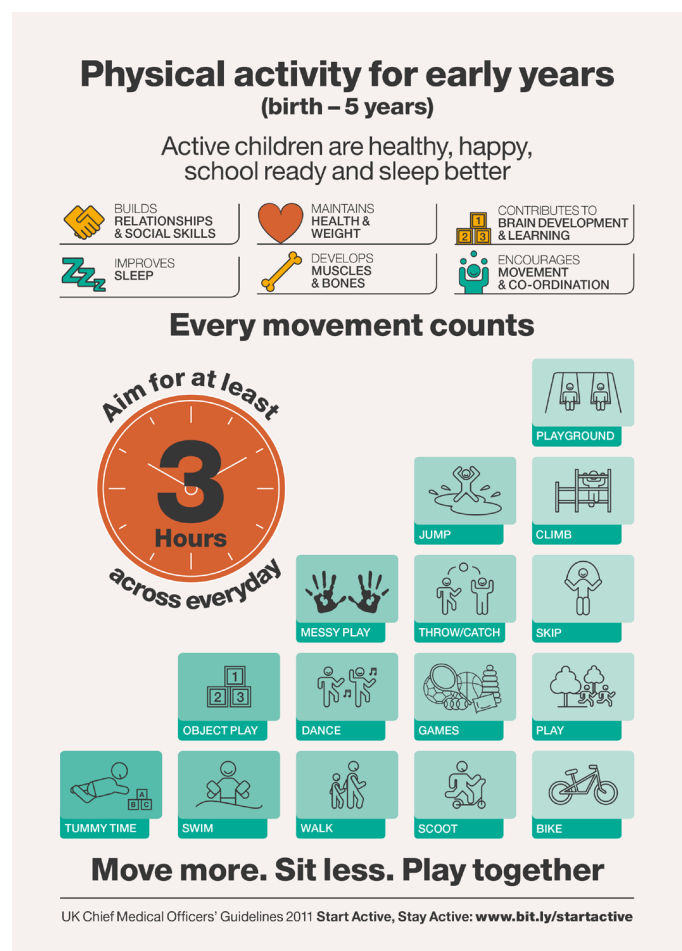
Evidence has demonstrated that the repetition of messages to parents and carers through a range of approaches is more effective than only using one method. However, if parents receive too much information from different sources the information can become too complex so a limited number of clear and simple messages may be more effective. Successful delivery methods have ranged from tailored individual feedback to group education sessions and pamphlets to posters in community facilities.

Research has also indicated the benefits of multicomponent approaches which target both parents and their children. For example, these types of intervention have included structured physical activity sessions for children, newsletters for parents, and an environmental change to promote physical activity at breaktimes.

Interventions targeted at the early years are more effective when they have a strong component of parental engagement, use evidence-based behaviour change techniques, focus on building skills and give links to social networking opportunities as well as community resources.

Strategies

- Use a variety of different media, such as leaflets or posters, to relay physical activity messages to parents and carers.
- Use a range of approaches which target both parents and their children.
- Focus on a limited number of clear, simple messages.
- Work in partnership with local services to provide parents and carers with consistent physical activity messages, eg, agree with health visitors or early years settings how and what information is provided to parents and carers.



Early years physical activity infographic

The Department of Health has published an infographic promoting physical activity in under 5s.

This infographic is based on existing CMO guidelines and will help early years practitioners, health visitors, and doctors to talk with parents about the importance of young children being active.



Section 2 – Working with parents and carers

The home appears to be an effective setting to deliver interventions to young children so actively engaging parents is important.

This section outlines the evidence-based recommendations for working directly with parents and carers in either a community or early years setting which are essential to ensuring children in the early years have sufficient opportunities to be physically active.

Each evidence-based recommendation is underpinned by research findings and is followed by practical strategies to support implementation.

Provide parents and carers with information on the importance of physical activity and the adverse effects of too much sitting time

Parents should be well informed if they are to encourage their children to be active.

An educational component often forms the basis of research programmes aimed at parents of young children. While research often does not directly report on increases in parental knowledge, studies which have used educational components do demonstrate increases in physical activity in the children and the frequency of parents engaging in active play with their children.

Furthermore, it is important to educate parents and carers about the detrimental health effects of too much sitting time. While the mechanisms behind the effects of too much sitting time are not fully understood, one major concern is whether children in the early years who spend a large proportion of their waking time seated or restrained are missing out on opportunities to be active. There is also concern regarding the effect too much sitting time has on obesity.

Information has been relayed to parents and

carers through a variety of methods such as providing them with leaflets, books or DVDs through a school or trusted source, running parenting classes which include specific sessions on physical activity or discussion groups and skills training. Approaches involving more direct contact and support for parents have shown particular promise.

Strategies

- Provide parents and carers with information on the importance of physical activity and the adverse effects of too much sitting time through a variety of formats such as providing them with a leaflet from a school or trusted source or including it as an element of a parenting class.
- Provide information materials for parents and carers in multiple languages and at appropriate reading levels for the target population.

Educate parents and carers about what counts as physical activity

Parents and carers often report that their child is already sufficiently active, but the reality is many activities children participate in are sedentary in nature.

It is important to suggest ways in which children can achieve the recommended levels of physical activity, for example, encouraging parents to visit places where children can be active, such as playground areas, and encouraging them to walk or cycle when travelling short distances.

Strategies

- Educate parents and carers on the amount of physical activity their child should be participating in every day.
- Provide parents with concrete examples of what physical activity looks like at different stages of development, such as, tummy time

for non-walkers or energetic play for walkers, with an explanation as to why it is important.

- Motivate parents and carers to critically evaluate the types of activities their children participate in, such as sedentary activities like sitting in the sandbox versus energetic activities like chasing bubbles.
- Work with parents to identify how long their child participates in each type of activity and provide parents with ideas on how they can balance sedentary activities with more energetic activities.
- Provide parents and carers with a range of age appropriate indoor and outdoor activity ideas for their child.

Create age inclusive promotional materials for education and activity sessions

If the title of a session is too specific, parents and carers might not see themselves as the target audience and might therefore not be motivated to get involved. For example, obesity prevention projects often struggle to recruit people because parents and carers do not perceive their child to be an unhealthy weight.

Strategies

- Use an inclusive title and description when creating promotional materials, eg, 'Do you want a baby/child that sleeps well at night? Find out how physical activity can help'.
- Use the age of the child as the only inclusion criteria on promotional materials, eg, use age not weight status.

Encourage parents to act as role models for their children

Research has demonstrated that parents and carers believe their child has different opportunities for active play depending on their own willingness to engage with their child. Although research is unclear about how a parent or carer's own physical activity level influences physical activity levels in children under five years there is some evidence to suggest that encouraging parents to be physically active themselves may lead to their children being more active.

When planning an intervention to promote parental physical activity, it is important to first address any barriers or factors that might affect their participation. Parents' physical activity beliefs will also affect their personal activity participation so providing information to help positively influence their beliefs is also important.

Strategies

- Encourage and support parents themselves to be physically active.
- Provide/suggest accessible opportunities for parental participation which help address any real and/or perceived barriers to physical activity.



Section 3 – Increasing physical activity in early years settings

The space, environment, equipment and time provided for physical activity by an early years setting can influence the activity levels of children in their care as well as the setting's policies and the education, training and behaviour of their staff.

This section outlines evidence-based recommendations to help those working in early years settings effectively increase physical activity and decrease sedentary behaviour in children under five.

Each evidence-based recommendation is underpinned by research findings and is followed by practical strategies to support implementation.

Ensure appropriate levels of practitioner training and support are in place

Research has indicated that early years practitioners can increase children's physical activity levels through providing appropriate equipment and activities, playing with children, prompting children to be active, showing enthusiasm for physical activity and acting as role models. It is therefore important to ensure that practitioners have appropriate training and support in age-appropriate physical activity. Providing information and support on early years practitioners' own health and physical activity can also be beneficial.

Whilst adult interaction has been found to facilitate greater levels of physical activity in children under five, research has shown that early years practitioners lack confidence and enthusiasm for promoting physical activity.

The presence of more qualified practitioners, eg, university graduates, has been connected with more energetic activity in the playground.

Staff training has been shown to be effective in increasing levels of physical activity.

Practical experience has shown that when implementing changes in physical activity provision, it is important for the managers of a setting to be involved and provide extra support to practitioners in the process.

Strategies

- Consult with setting managers to ensure appropriate levels of practitioner support are in place.
- Work with practitioners at each setting to determine their training and support needs.
- Provide 'booster' training and information sessions to refresh practitioners' skills and knowledge for promoting physical activity and reducing sedentary behaviour within their setting.
- Provide practitioners with a range of activity ideas for both outside and indoors.



Partner with external agencies to help practitioners develop their physical activity knowledge and expertise

Early years practitioners may not have strong expertise in developing and facilitating physical activity opportunities for children in the early years. Collaborating with external agencies when initially looking to change physical activity provision within an early years setting may help provide extra support while practitioners are developing their knowledge and skills and building their confidence.

Strategies

- Identify community-based support systems, such as a physical activity co-ordinator or local authority health improvement team, who can work with practitioners to help provide physical activity sessions for the children or can provide practitioners with training sessions.
- Consider the individual needs of the setting and practitioners to determine how best to provide support.

Create an ethos and environment that promote physical activity

It is important to create an ethos and environment that support and encourage children to be active throughout each day. Physical activity should be incorporated into the daily curriculum and, wherever possible, total sedentary time should be decreased.

Having a specific physical activity policy can help to ensure consistent messages and practices throughout the setting which, in turn, can have a positive impact on physical activity levels.

Providing children with sufficient time and space to play in a stimulating environment is important in encouraging them to be active. Open play areas, creative playgrounds and the provision of games equipment together with encouragement, support and positive role modelling from practitioners and parents/carers will all help to promote physical activity.

Strategies

- Develop a physical activity policy in consultation with the pre-school community and monitor and review the implementation of this policy.
- Teach children about physical activity and its benefits.
- Integrate opportunities for physical activity across the day.
- Involve the whole school community in supporting and encouraging physical activity.
- Consider organising physical activity-related field trips, for example, to a local park.

Case study: Randal Craemer Nursery, Hackney

Randal Craemer is taking action to reduce sedentary behaviour throughout the school day. Explaining how they go about this, their Physical Literacy Consultant said: “We’re trying all the time to reduce sedentary play, putting things onto the floor because if they’re on their hands and knees they are putting weight through their shoulders and hips. We are always trying to find ways to make the learning environment more active. If they’re queueing the teacher might do a little game of body awareness or balancing or moving different body parts. Really to try and reduce their time being still.”

Involve parents and carers both directly and indirectly in the activities to ensure they are also carried out in the home environment

Parents play a vital role in promoting physical activity to their children. Through actively involving parents, activities and messages introduced in a setting can be reinforced at home and this is likely to have more impact on children's activity levels.

Positive effects on children's physical activity levels have been evident even through parents' and carers' indirect involvement with setting activities. One study saw increases in activity levels after providing parents and carers with details on the activities their child had been doing at nursery and providing instructions on how to carry out the activity at home. In addition, information on the importance and benefits of physical activity was provided to parents and carers.

Practical experience has demonstrated simply equipping practitioners with the skills and knowledge they need to speak and work with parents and carers may have a positive impact on the child's physical activity levels.

Strategies used have included sending a weekly newsletter to parents outlining what had been covered in school and how parents could reinforce this, as well as offering parents the opportunity to do an activity session at the early years setting.

Strategies

- Get parents involved directly through the setting, eg, invite them for a stay and play session or put on educational sessions.
- Provide practitioners with specific training on how to promote physical activity for children in the early years to parents and carers.
- Involve parents and carers indirectly by speaking with them or providing visual prompts which let parents and carers know what physical activities their child has been doing during the day.
- Send a newsletter to parents outlining what has been covered in the setting and how parents could reinforce this – or put up posters with ideas on noticeboards.

- Provide parents and carers with physical activity ideas for the home environment.

Case study: George Perkins Day Nursery, Birmingham

The nursery encourages parents to come and join in with 'toddlers' over to the local park. Parents have been very surprised by how far their children can walk without needing a pushchair which has been useful. Some parents have become more active themselves by starting to run, joining in with the local parkrun and taking their children to the junior parkrun. This is something that the nursery has promoted through poster displays. Staff have held workshops and parent evenings showing examples of activities that can be done at home to encourage an active environment at home as well as in the nursery and they always include an article about physical activity in their parents newsletter.

Offer more frequent short periods of outdoor play

Offering opportunities for outdoor play is important as time spent outdoors has been shown to increase levels of physical activity in young children.

Studies in preschoolers have demonstrated that children are most physically active during the first 10–15 minutes of outdoor play time.

Repeated, shorter periods of outdoor play have been linked with higher step counts and physical activity levels than a single prolonged outdoor play period.

There is no evidence that children compensate for increased outdoor activity by being less active during the rest of the day.

Strategies

- Provide opportunities for children to spend time playing outdoors every day.
- Modify break times in order to provide shorter, ie, 10-15 minutes, and more frequent outdoor play sessions.

Case study: The Patch Day Nursery, Birmingham

Patch Day Nursery has encouraged free flow play through offering children the option of doing the same activities indoors or outdoors. This way children who enjoy more traditionally 'indoor' activities have the opportunity to do these outside in a more active way. Emma Pate, Daycare and Family Support Manager, explained: "We've got a book area that's outside permanently. We've also got a writing area outside so that the children can use chalks or do painting out there. There's a home corner outside, so if they enjoy playing with the dolls, babies and prams there are as many outside as there are inside.

"If we find a child doesn't like physical activity or we find that children aren't playing outside it's our job as practitioners to find something that they enjoy doing and encourage them to do activity outside.

"We've also got tunnels and slides in the baby room so that the children are really active throughout the day. We've got a physical area inside the nursery so if children choose not to play outside it doesn't mean they are not active."

Further research is required to evaluate whether specific equipment and/or playground markings may be more successful in promoting physical activity in this age group.

Strategies

- Before planning any changes to playgrounds and equipment identify the activities and games children at the setting like to participate in.
- Provide a variety of smaller objects for children to play with, such as balls, push or pull toys and tricycles.
- If playground markings are to be introduced, consider how to maintain children's interest over time.
- If playground space is limited, consider scheduling specific times for smaller groups of children to use the space so that there is more room for them to run around.
- Provide parents with activity ideas along with a 'take home bag' of activity friendly equipment or list of everyday household items which can be used to promote activity, such as lengths of material with different textures or balls of different sizes.

Provide more 'activity friendly' portable equipment

Studies in preschools have demonstrated that children are more active when more portable outdoor equipment, such as balls, hoops and tricycles, are provided.

Some researchers have suggested that playground markings can also increase activity levels, however, research regarding the influence of playground markings for young children is inconsistent with others finding no increase in activity levels. Likewise, providing extra fixed equipment has not been effective in increasing children's physical activity levels.

Increased creativity in the use of available equipment has also resulted in increased levels of physical activity.



Include adult-led activities to improve motor skills

Whilst research has shown that shorter outdoor activity sessions are more beneficial for increasing levels of physical activity, it is important to provide some longer sessions of structured activity, ie, adult-led activity, with research indicating these can increase motor skills and levels of physical activity.

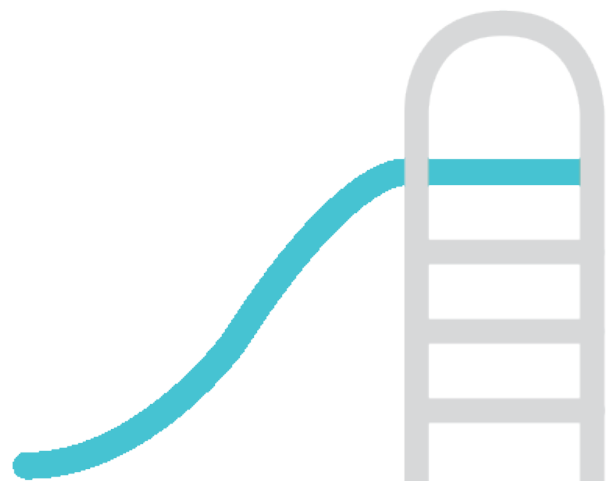
Fundamental movement skills are the building blocks that will enable children to participate in sports and games that require more advanced movements, during the school-age years and beyond. Research has shown a link between competence at fundamental movement skills and levels of physical activity. The early years are a critical time for the development of these skills and they need to be learned, practised and reinforced through developmentally appropriate movement programmes as they do not develop naturally.

Research has shown that providing 1½ hours of adult-led activity each week is sufficient for eliciting improvements in motor skills development, ie, development of movement abilities involving small muscles and precise movements (fine motor skills) or whole body movements involving posture and larger movements (gross motor skills). And successful motor skills development sessions which promote fundamental movement skills (ie, locomotor, balance and ball skills), body management and physical fitness tend to last 30-45 minutes and be implemented on two to three days per week. The research behind these results, however, was carried out in slightly older children, ie, those aged 4-6 years, and this length of time may not be appropriate for younger age brackets. Therefore, it seems more sensible to recommend that adult-led sessions balance the length of the activity to a child's interest and attention span corresponding to their age.

Whilst motor skill interventions are effective in improving fundamental movement skills in children, there is still a need to determine the type of approach and time needed for these to be most effective.

Strategies

- Provide adult-led activity sessions throughout the day which offer children an opportunity to improve motor skills, for example, have a practitioner-led throwing and catching session during outdoor play time which the children can choose to join.
- Work towards providing children with longer activity sessions, ie, 30-45 minutes maximum by age 5 or 6, which are explicitly designed to improve motor skills development two to three times a week.
- It is important that movement programmes are innovative and creative to maintain the interest of children.
- Activities should be accessible for all children.



Use physical activity as a medium through which to integrate all areas of learning and development

Physical activity can be used to support a number of UK early years curriculum areas, such as physical development, language, literacy and communication skills and personal social and emotional development.

Strategies

- Integrate physical activity into the daily routine when planning activities so as not to infringe on opportunities for free play, eg, build actions into counting rhymes.
- Use physical activity to support other areas of the curriculum, for example, using positional and directional language when playing games
- Introduce movement into daily circle or group time.

Case study: George Perkins Day Nursery, Birmingham

At George Perkins Day Nursery steps are taken to reduce sedentary behaviour and increase physical activity through making tweaks to existing provision. For example, physical activity is incorporated into other areas of the curriculum. When teaching numeracy, they chalk a line of numbers/shapes on the wall/floor and encourage children to throw a bean bag at number five or run to a particular shape. Staff also make existing activities more active, eg, adapting nursery rhymes to include actions that encourage development of both fine and gross motor skills.

Ensure a balance of free play and adult-led physical activity opportunities

Free play is beneficial not only for enabling children to practise their motor skills but also for their emotional, social and cognitive development. Therefore, it is important to balance structured activities with opportunities for free play.

Some children, particularly those who initially are less interested in physical activity, may benefit from some practitioner guidance and encouragement during free play.

Strategies

- Provide specific opportunities for physical activity, such as tummy time, crawling activities or energetic games, within the early years setting's daily routine.
- Assess indoor and outdoor environments, and, if possible, rearrange them to offer more free space for active play.
- Balance more adult-led activity sessions with opportunities for indoor and outdoor free play.
- Repeat activities to allow for lots of 'practice time', so young children have ample opportunities to master their environment and refine their newly learned skills.
- If appropriate, prompt and guide children who are inactive during free play.



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