

0-4 YEARS



This leaflet is for families whose children are affected by blood cancer. It promotes an active, safe, and adapted lifestyle during treatment.



Perspective

Being active is essential for the proper development of growing children. Children hone their motor skills through unstructured play that includes a wide range of motion—crawling, climbing over and under obstacles, throwing, catching, jumping, etc.

Between the ages of 0 and 4, physical activity prevents delays in motor development while maintaining strength, physical endurance, and body weight. It can also contribute to better recovery after treatments.

Plus, keeping your child active will reduce fatigue, improve quality of life, maintain heart health, improve functional abilities, maintain or improve flexibility, and help maintain healthy bones.





Recommendations

Children age 0 to 4 can be encouraged to be active throughout the day using objects and imagination, based on their areas of interest.

Experts say that children of this age range should be active 180 minutes a day if possible. This can be divided into several short periods throughout the day.

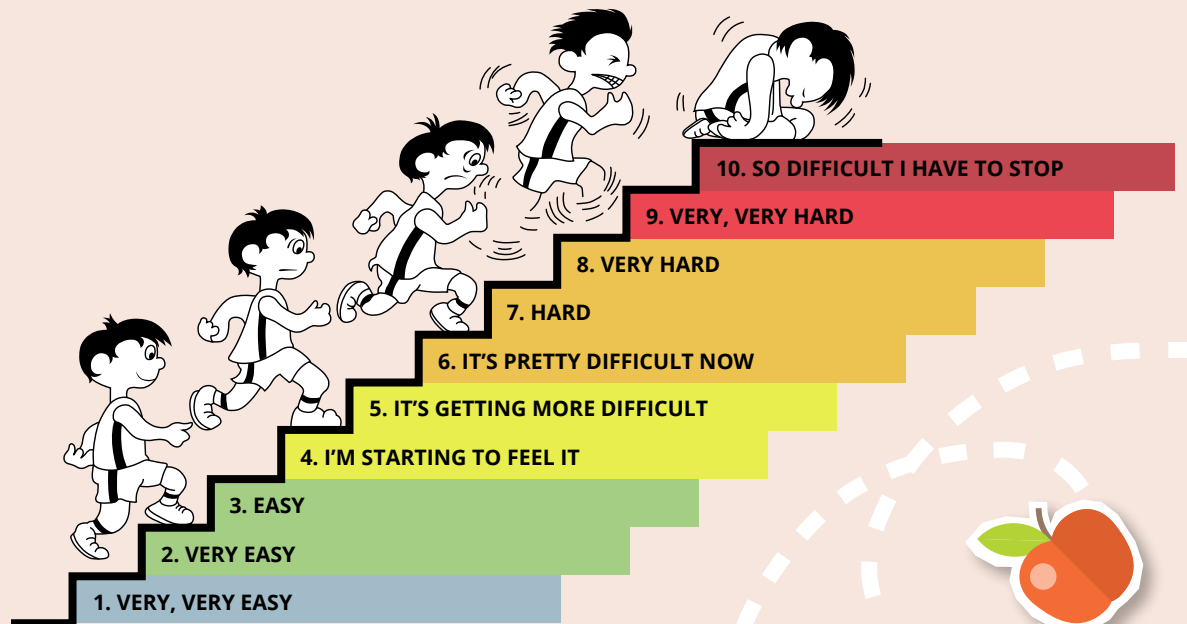
They do not need structured play. Encourage them instead to play naturally by stimulating them with objects that interest them. Get them to walk, kick, throw, catch, climb, etc. Creating small obstacle courses with your child can be a fun way to get them moving.

The intensity of the activity can vary from moderate to vigorous. Use the following scale to help you measure fatigue.



Borg Rating of Perceived Exertion Scale (0-10)³

| | |
|----|-------------------------|
| 10 | <i>exhaustion</i> |
| 9 | <i>very, very hard</i> |
| 8 | <i>very hard</i> |
| 7 | <i>hard</i> |
| 6 | <i>somewhat hard</i> |
| 5 | <i>moderate</i> |
| 4 | <i>fairly light</i> |
| 3 | <i>light</i> |
| 2 | <i>very light</i> |
| 1 | <i>very, very light</i> |
| 0 | <i>at rest</i> |



Another easy way to assess intensity is by paying attention to breathing and ability to speak during exercise:

- Is it easy to speak during the activity? That means the intensity level is moderate.
- Is it hard to hold a conversation? That means the intensity level is high.

High-intensity exercise is important, but it should be briefer and less frequent. Moderate-intensity exercise can be done every day.



Safety

Physical activity during treatment is not harmful if you pay attention to specific signs. Stop and postpone physical activity if your child shows evidence of:

- Nausea
- Onset or increase in pain
- Vertigo or dizziness
- Palpitations or chest pain

Exercise caution:

Children with low platelet levels:

Avoid activities where there is a risk of falling or the child must catch things. Instead:

- Choose games played on the ground
- Roll objects slowly

Children with a low level of neutrophils:

Avoid cloth toys, wash toys before play, and wash the child's hands after play. Instead:

- Choose plastic toys

Children with low hemoglobin:

Avoid high-intensity games and activities where they must bend over or hold their breath. Instead:

- Promote games where the child doesn't move all around or is seated
- Watch for signs of fatigue and allow for rest periods

Children with low blood sugar levels

who cannot eat (blood tests, etc.):

- Choose very low-intensity activities
- Postpone the activity until after they have eaten

Make every step count

Adding brisk movement is one way of increasing children's daily amount of physical activity (walking, climbing stairs, cycling, etc.).



Minimize sedentary activities

Seated activities should be limited at 2 hours a day when possible. For example: games on tablets or cell phones, shows and movies, reading, and others.

Sleep

Especially during growth periods, children need lots of sleep—even in the daytime.



Drinking water is important

Always have a water bottle on hand. Children must be kept well hydrated if they are active, especially during treatment.



Doctor's guidance

It is important to talk with the attending physician about other recommendations for your child and adapt the level and type of physical activity your child can do.



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Sources: **1.** Canadian 24-Hour Movement Guidelines for Children and Youth. Guideline Development Report 2016: An Integration of Physical Activity, Sedentary Behavior, and Sleep. Canadian Society for Exercise Physiology. **2.** Duhamel, G. *et al.* 2020. Systematic Review of Physical Activity Prescription with Pediatric Oncology Patients Towards Recommendations. Accepted before publication. **3.** Lazaar, N. *et al.* 2004. Modalities of Submaximal Exercises on Ratings of Perceived Exertion by Young Girls: A Pilot Study. *Perceptual and Motor Skills*, 99 (3_suppl), 1091–1096. <https://doi.org/10.2466/pms.99.3f.1091-1096>



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