# Return to Activity

This tool is intended for a general audience and serves as a guideline for managing an individual’s return to activity following a concussion and does not replace medical advice. Timelines and activities may vary based on direction from a doctor, nurse practitioner, or healthcare professional with relevant training. Begin Step 1 within 24 hours of injury, with progression through each subsequent step taking a minimum of 24 hours.

## STEP 1:
**Activities of daily living and relative rest***
- Maximum of 24-48 hours
- Activities at home such as social interactions and light walking that do not result in more than mild and brief exacerbation (worsening) of concussion symptoms.

Examples:
- Preparing meals
- Housework
- Light walking
- Minimize screen time for first 24-48 hours following concussion.
- Sleep as much as your body needs while trying to maintain a regular night sleeping schedule.
- Avoid driving during the first 24-48 hours after a concussion.

Note: The goal for each step is to find the balance between doing too much and too little.

## STEP 2:
### 2A: Light effort aerobic activity
- Up to approximately 55% of maximum heart rate (predicted according to age - i.e. 220-age).
- In a safe and controlled environment, engage in light effort aerobic activity.

Examples:
- Stationary cycling
- Walking at slow to brisk pace
- Gardening
- Dancing
- Housework
- Use of devices with screens may be gradually resumed.

### 2B: Moderate effort aerobic activity
- Up to approximately 70% of maximum heart rate (predicted according to age - i.e. 220-age).

Examples:
- See examples in Step 2A
- Exercises and activities that do not result in more than mild and brief exacerbation (worsening) of concussion symptoms and do not have a risk of falling or head impact.
- Take a break and modify activities as needed with the aim of gradually increasing tolerance and the intensity of aerobic activities.

## STEP 3:
**Increase activity intensity**
- Participate in normal day-to-day activities, including normal physical/training activities, school gym-class, and work-related activities.

Examples:
- Workouts
- Swimming
- Fast-paced walking
- Shoveling
- Yoga/Pilates

It is important to get medical clearance before returning to activities that involve any risk of inadvertent head impact.

## STEP 4:
**Return to activity**
- Back to normal, unrestricted activity

Examples:
- Outdoor biking
- Paddling and water activities
- Normal unrestricted work-related tasks and higher risk activities
- School gym class
- No restrictions on physical activities

Note: Returning to high-risk activities before you have recovered increases the risk of delayed recovery and for sustaining another more severe concussion or serious injury.

## Increase heart rate

**Activities of daily living, as tolerated**

<table>
<thead>
<tr>
<th>After a maximum of 24-48 hours after injury, BEGIN STEP 2</th>
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<tbody>
<tr>
<td>If can tolerate moderate aerobic activity, BEGIN STEP 3</td>
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</tbody>
</table>

If can tolerate further increase in aerobic activity to pre-injury levels and have received medical clearance, BEGIN STEP 4

Medical determination of readiness to return to at-risk activities should occur prior to returning to any activities that pose risk of contact, collision, or fall.

*Relative rest: activities of daily living including walking and other light physical and cognitive activities are permitted as tolerated.
**Mild exacerbation (worsening) of symptoms: No more than a 2-point increase when compared with the pre-activity value on a 0-10-point symptom severity scale.
***Brief exacerbation of symptoms: Worsening of symptoms for up to 1 hour.
****0-10 point symptom severity scale: Please see the [Visual Analog Scale](#) for an example of a 0-10 symptom severity scale.

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Adapted from: Zemek, R., Reed, N., Dawson, J., et al. “Living Guideline for Pediatric Concussion Care.” [www.pedsconcussion.com](http://www.pedsconcussion.com) (the PedsConcussion protocol was modified with permission from the [Amsterdam International Consensus Statement on Concussion in Sport](http://www.amsterdamconsensusstatement.org)).

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