Goalball

In 2022, British surgeon John McFall, whose right leg was amputated after a serious motorbike accident, became the first disabled person to join ESA's new class of astronauts. He is now part of an unprecedented programme to study the *"feasibility"* of spaceflight access for "parastronauts". John McFall is also a former parasport world sprint champion over 100 and 200 metres, in 2007, before winning a bronze medal at the Beijing Paralympic Games the following year!

The 17th Paralympic Games took place from 28 August to 8 September 2024 in France. During these games, 23 different sporting disciplines were represented, including goalball. Goalball is an exclusively Paralympic sport in which two mixed teams of 3 visually impaired or blind players play against each other, blindfolded during the game. Athletes must spread out in front of their goal and are not allowed to move forward. Each team throws a ball (with bells in it) low to the ground to score in the opponent's goal.

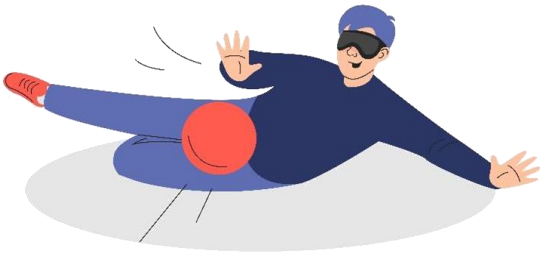
Why can the Paralympic discipline of goalball be considered good training for astronauts and parastronauts?

France-Portugal match from the ISS © ESA

MISSION DESCRIPTION

Reflexes and coordination are essential skills for astronauts and parastronauts. Whether during the launch or on the space station, astronauts have to be ready to react quickly in the event of a problem occurring or if an alarm sounds.
What's more, in zero gravity, objects don't fall to the ground and can float all over the station if you're not careful. Astronauts also move by floating in all positions and not by walking or running on both legs.

At the Paralympic Games, goalball athletes have to demonstrate the same skills if they hope to win a medal!



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SKILLS WORKED ON

- Developing motor skills and building a body language
- Acquiring methods and tools for learning, individually or in groups, through practical experience
- Abiding by the same rules, taking on roles and responsibilities to learn to live together
- Learning how to maintain health through regular physical activity
- Adopt a physical, sporting and artistic culture

MISSION PREPARATION

- Place two goals (2-3 m wide, depending on the size of the children) facing each other and spaced about 10 m apart.
- Preferably choose a soft surface such as grass. Bring skateboards to lie on if the ground is too hard to dive and roll on.
- Divide the children between 4 or 5 playing areas.
- The two children playing must be blindfolded during the match (adaptations possible).
- Make sure the ball is not too hard, is large enough and noisy enough to be easily followed.

WARM-UP

10 rotations of the wrists in one direction then the other.

Rotate arms forward and then back 10 times.

Run around the playing field.
5 forward rolls or several rolling-overs lying on the ground, first in one direction then the other.

MISSION SEQUENCE

Contextualise the course by imagining that the children are future astronauts undergoing collaborative sports training for their next mission in space, during which they will have to be ready to react quickly and effectively to any alerts!

Children take it in turns to compete in pairs over short 4-5 minute rounds.
The first few games can be played with eyes open to get them used to the field and the rules.
The winning team is the one that scores the most goals.
Games can be played in small tournaments or pools on each playing area.

Other criteria can also be taken into account in the assessment, such as game strategy, team communication, good coordination and listening to each other's suggestions, mutual aid and goodwill, etc.
Pairs can also be formed within the same team if some children need assistance with this game.

Point out to the children that their performance improves with practice and that they can then gradually increase the difficulty and/or intensity of the activity.

EXAMPLES OF POSSIBLE ADAPTATIONS

Increase the difficulty and/or intensity:

- Increase the weight of the ball (official ball 900g).
- Slightly increase the size of the playing area.
- Reduce the size of the goals.
- Play longer games.

Reduce the difficulty and/or intensity:

- Use a larger ball.
- Reduce the size of the playing area.
- Increase the size of the goals.
- Play shorter games.
- Have the pupils kneel to limit collisions.
- Do not blindfold them; have them remain seated in a wheelchair; use a walker or crutches; etc.

DID YOU KNOW?

Photo taken and published by Thomas Pesquet
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This ball has an incredible history: it accompanied the crew of the Challenger shuttle in 1986, was recovered following the accident and was sent back into space 30 years later in 2016!