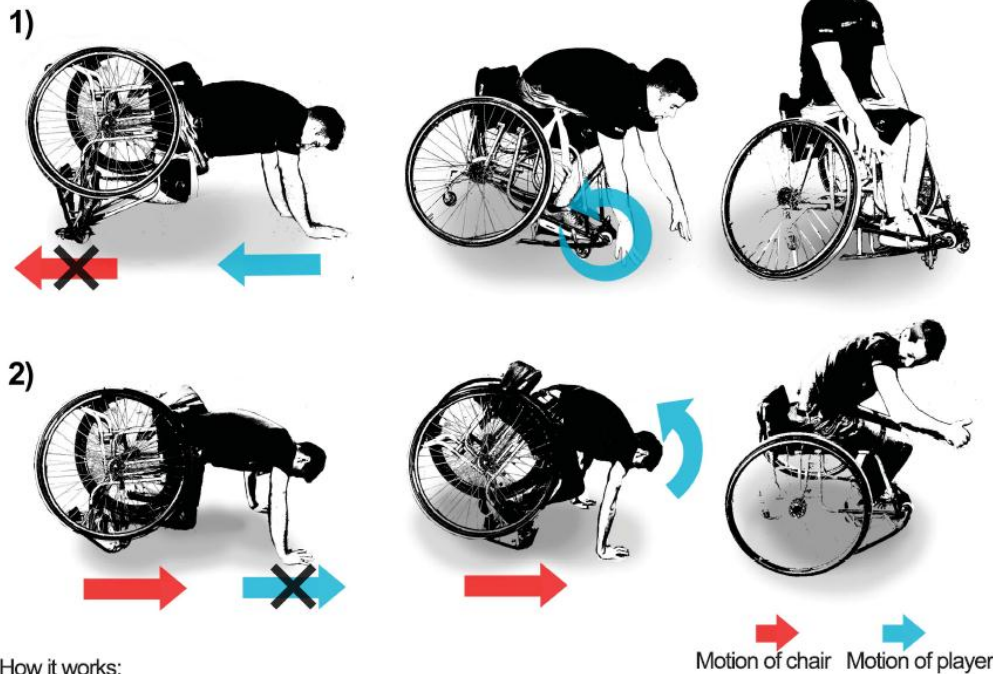


# Re-Orientating Device For Wheelchair Basketball

Wheelchair basketball is a popular sport that featured in the Paralympics. Due to the aggressive nature of the sport, falls are common. However, falls disrupt the match as some players are unable to right themselves.

Our device can be used by all players regardless of disability to right themselves independently, allowing the match to proceed more smoothly.

The device is a lightweight mechanical structure that is installed with a simple modification to a standard basketball wheelchair. Special care was taken to ensure that our modifications comply with Paralympic regulations, and the practicalities of play, so that professionals and amateurs can use the project alike.



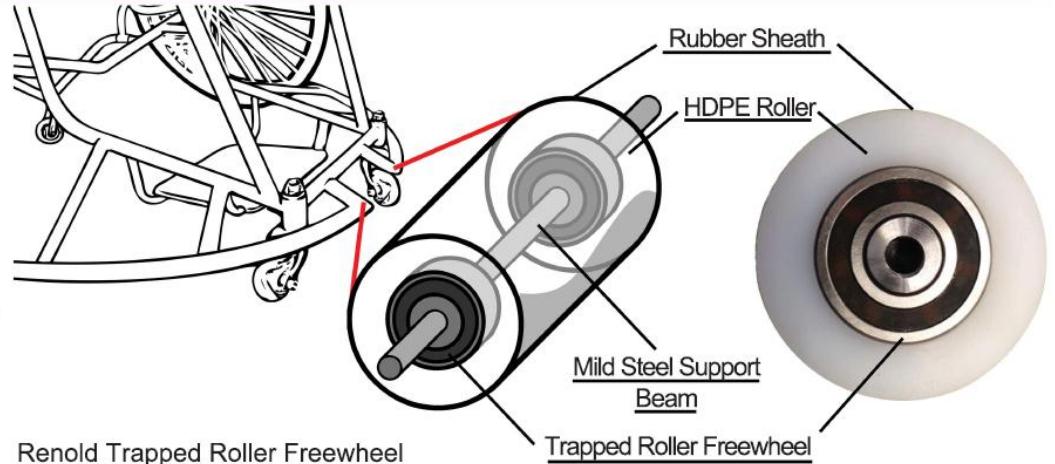
How it works:

1) Players with little abdominal control:

The player uses their hands to walk backwards, shifting their centre of gravity over the fixed pivot point provided by the roller, thus re-orientating themselves.

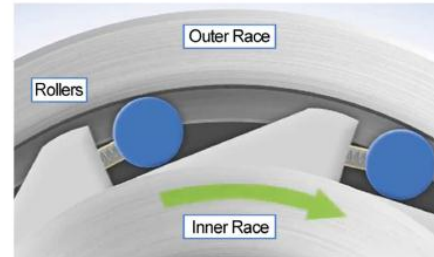
2) Players with full abdominal control:

The player brings the roller closer towards his hands allowing the centre of gravity to move beyond the pivot point, hence re-orientating themselves.

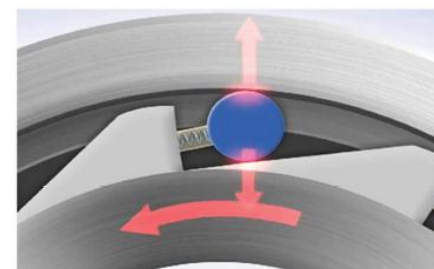


## Renold Trapped Roller Freewheel

The trapped roller clutch consists of a cylindrical outer race, an inner race with ramps and individually sprung rollers.



The rollers rotate during free-wheeling and the springs ensure that they are held in contact with the outer race and inner race ramp at all times.



Any movement in the opposite direction causes the rollers to lock against the outer race and inner race ramp to prevent any reverse rotation.

Christy Gregan  
Superleague player,  
London Titans

