

Para-Rowing Specific Coaching Considerations

PHYSICAL DISABILITY

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supported by

AGITOS
Foundation



**Greater Similarities in
Coaching
Olympic/Paralympic Rowers
than Differences !**

- Individual assessment of affected joint or body segment involvement through discussion with the athlete and observation during rowing and training.
- Individualisation of training and equipment, including rigging, to optimise performance
- Monitoring of individual response to training
- Prevention of known possible injury associated to rowing and training in partnership with the athlete

Before athletes with a physical disability take part in rowing activity, a pre-activity screening process should be carried out detailing pertinent medical history. The following medical history is taken during a FISA Classification interview:

Medical History:

- Diabetes
- Heart Disease
- Cancer
- Stroke
- Recent Fracture
- Asthma
- Hypertension (high blood pressure)
- Autonomic Dysreflexia
- Dehydration
- Seizures
- Other

Wheelchair Transfer



Ergometer Transfer



Be sure that the athletes are aware and/or protected from any sharp edges that may injure them during transfer, such as the monorail

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Ensure feet are adequately protected to prevent pressure sores/marking

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All strapping should be manufactured from a soft material that will not cause chaffing or marking

Ergometer Transfer



Appropriate interface cushion between athlete and seat to prevent pressure sores

Three-Stage Transfer

It is a good idea to think of the transfer in two-three parts, regardless of whether a person is using a wheelchair, has difficulty walking or is visually impaired





Park the wheelchair closely to the transfer cushion, parallel to the boat and safely undo any wheelchair strapping



Edge towards the front of the wheelchair, with your feet facing forwards



Slowly and carefully swing your lower body down unto the cushion, using your trailing hand to push off from the wheelchair and then steady your body once you have reached the cushion



Lean forwards to place a hand on the cushion to steady your upper body



Swing your legs round to face the boat



Place the hand nearest the rigger on the pontoon and the other hand on the seat, ready to move your body over to the seat



Move your bottom over to the seat, leaving your feet on the pontoon



Move your feet over into the boat and place them in the foot-stretcher



Strap each foot into the foot-stretcher ensuring they can be released in the event of a capsize



Once your feet are strapped in, position yourself correctly and comfortably on the seat



Do up the strapping on your seat, ensuring that the straps all open from same side and direction



Receive the scull handles from your coach and you are good to go!

Transferring with two Helpers



This transfer technique works well in most situations. However, it may not be suitable for all rowers, particularly if they have weak or painful arms and/or shoulders.

To avoid injury to the lower back, helpers should use their stronger leg muscles by bending their knees during any lift

- The wheelchair user should move to a position alongside and parallel with the boat, leaving sufficient space to sit on the pontoon between the boat and the chair. Put the brakes on
- Lift the back of the wheelchair, or remove the arm support on the transfer side





The rower grips his/her own wrists across the chest. Helper puts his/her hands under the rower's armpits and grips the rower's forearms.



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The rower grips his/her own wrists across the chest. Helper puts his/her hands under the rower's armpits and grips the rower's forearms. Helper grips under the rower's knees.



After a countdown, ('1-2-3 go') lift the rower onto the pontoon.



After a countdown, ('1-2-3 go') lift the rower



After a countdown, ('1-2-3 go') lift the rower onto the pontoon



Rower is lowered onto a transfer cushion with legs extended



Helper transfers the rower's legs (Some rower's prefer to transfer their legs first)



Helper holds boat stable by rigger. Reverse this procedure to disembark



Transfer Cushion (see equipment module)

- Essential for skin protection for those with no sensation due to paralysis
- Important for the comfort of someone with limited movement, sitting for long periods
- Useful for someone with lack of trunk stability, or in need of support to maintain a particular position

Classification - Amputations

During the classification process, rowers with a prosthesis will be examined with and then without their prosthesis to determine their sport class which is based upon best functionality



For rowers who wear a prosthesis, consideration should be given to:

Work Load

- Rowers with an amputation experience increased levels of work compared to able-bodied rowers when rowing. The result is that they may tire quicker.
- The potential impact on the mechanics of the rowing stroke (e.g. the ankle joint flexion at the catch position)

Safety

- Muscular imbalances
- Pressure
- Pain and 'phantom pain'
- Perspiration
- Thermoregulation

Lower Limb Amputations



Activankle with neoprene cover in walking position



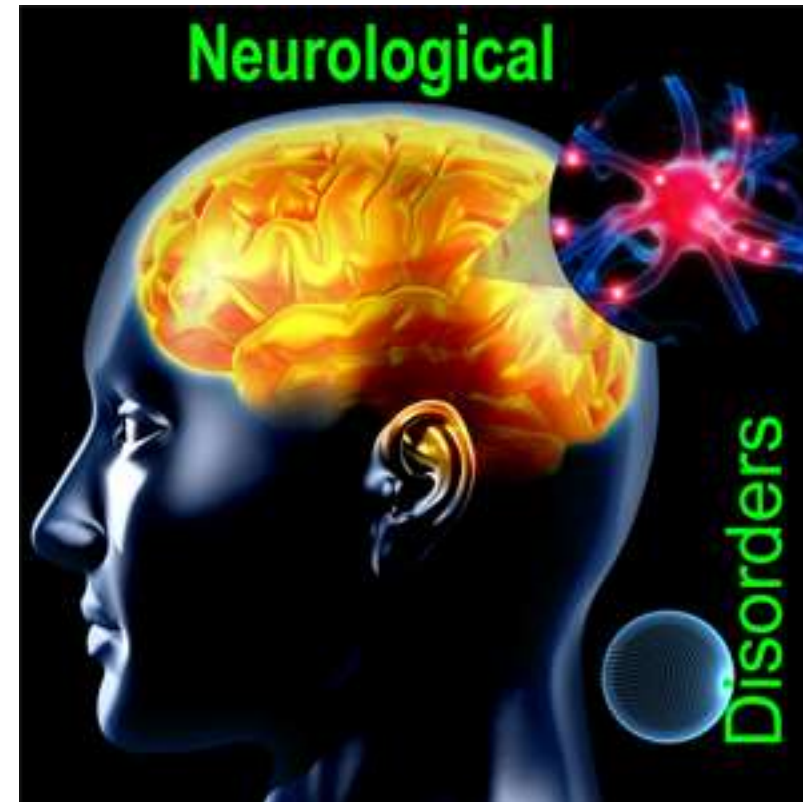
Flexi-Foot system with quick release system mounting for a safe release

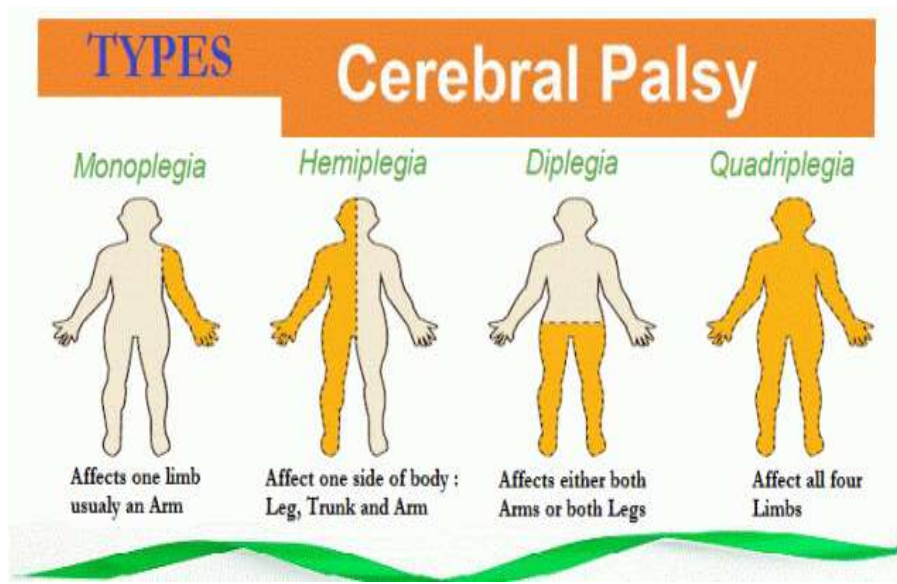
Upper Limb Amputations



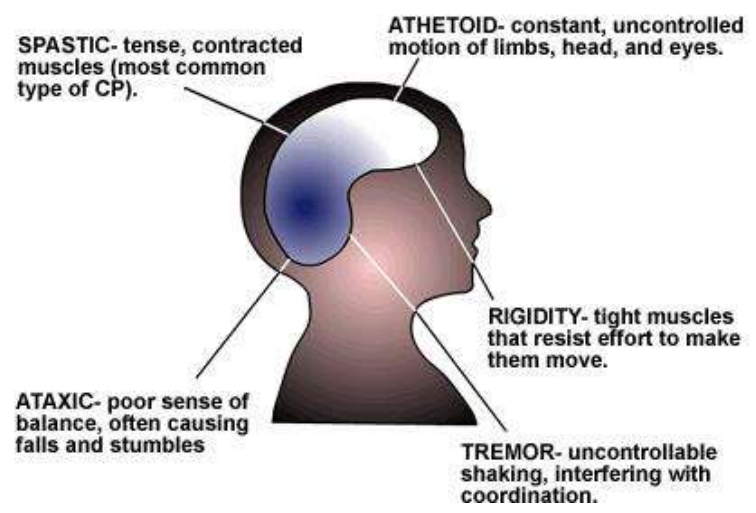
This includes athletes with the following health conditions:

- Cerebral Palsy
- Acquired/Traumatic Brain Injury
- Stroke
- Spinal Cord Injury





TYPES OF CEREBRAL PALSY



Information session

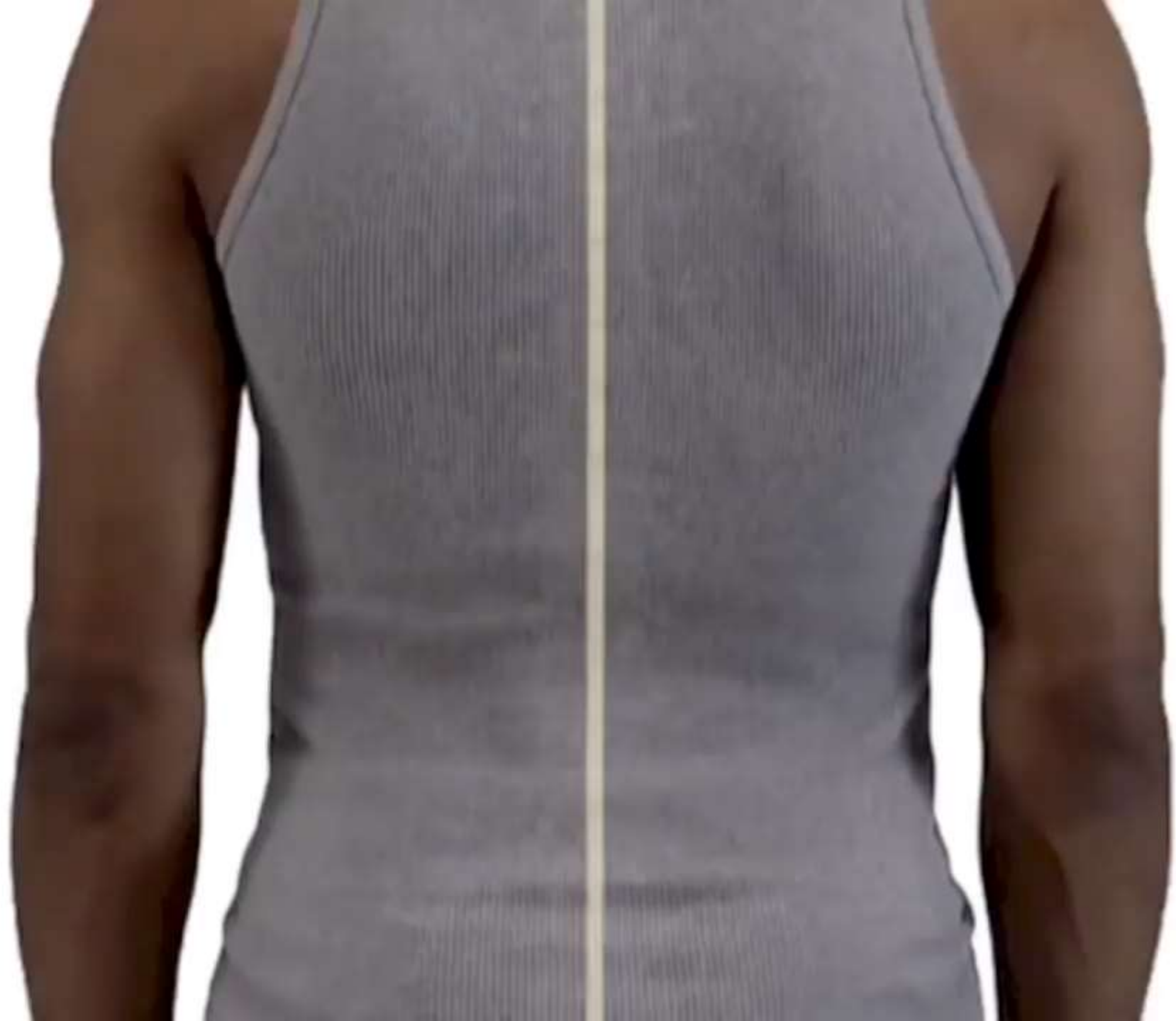
Types of cerebral palsy



- Athletes with Cerebral Palsy (CP) may experience balance and co-ordination deficit
- **Stress** and **emotion** can affect athletes ability to train/compete both **psychologically** and **physically**
- **Thermoregulation** - warming up and cooling down are very important for athletes with cerebral palsy as a hot/cold climate can affect **spasticity, athetosis, ataxia**
- Additional stretching and flexibility exercises, and/or shorter drill times are required
- **Pain** can be a problem for people with cerebral palsy due to spastic muscles and the stress/strain on parts of the body that are compensating for muscle abnormalities. If experiencing pain or discomfort the athlete should consult their doctor or physiotherapist
- Athletes with CP are advised to consult their doctor or physiotherapist to ensure there are no contra-indications to taking part in rowing

The effects of Spinal Cord Injury (SCI) depend on the type and the level of the injury. SCI can be divided into two types:

- **Complete** - complete injury means that there is no function below the site of the injury; no sensation and no voluntary movement. Both sides of the body are equally affected
- **Incomplete** - An incomplete injury means that there is some function below the primary level of the injury. A person with an incomplete injury may be able to move one limb more than another, may be able to feel parts of the body that cannot be moved, or may have more function on one side of the body than the other



Injury Levels

C4 Injury

Quadriplegia/
Tetraplegia, results in complete
paralysis below the neck



C6 Injury

Results in partial paralysis of
hands and arms as well as
lower body



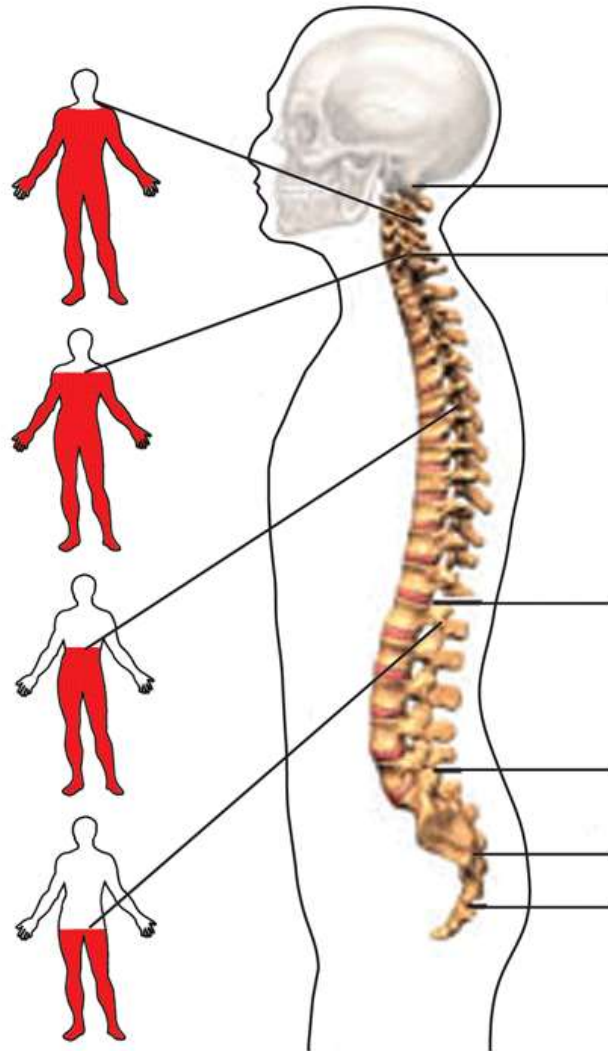
T6 Injury

Paraplegia, results in paralysis
below the chest



L1 Injury

Paraplegia, results in paralysis
below the waist



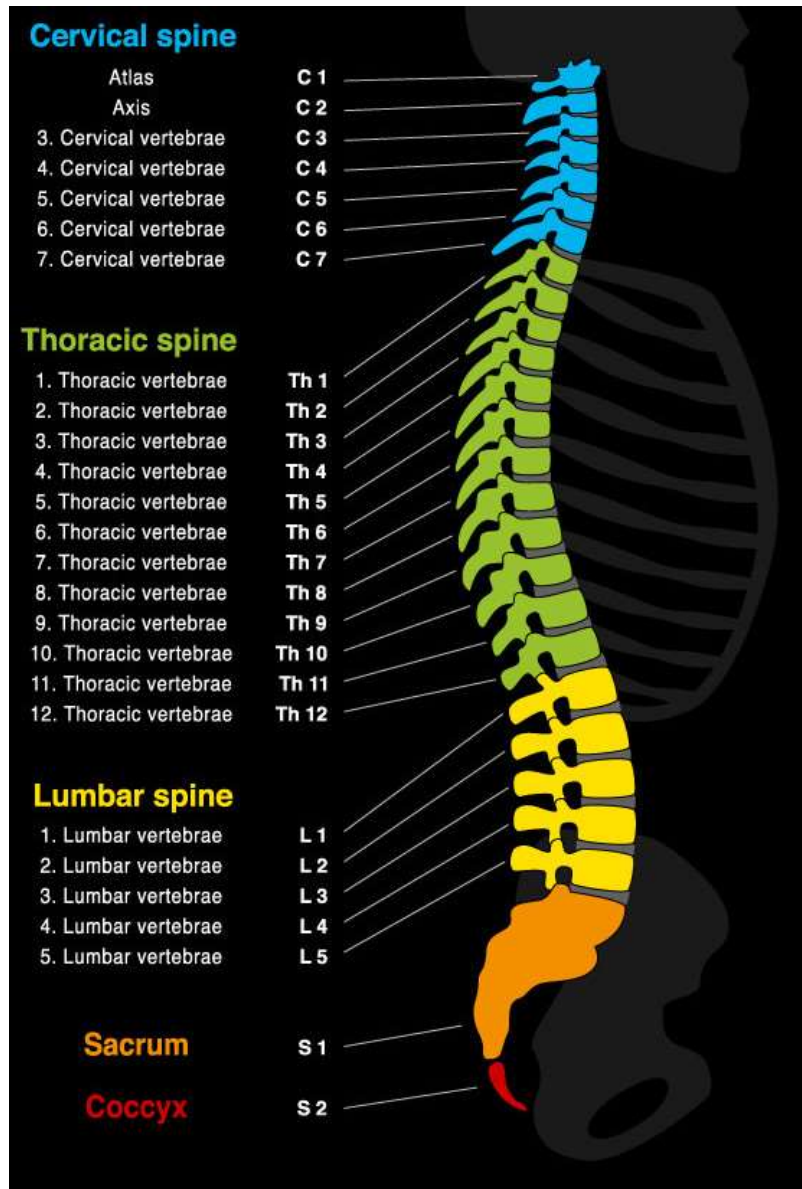
7 Cervical Vertebrae

12 Thoracic Vertebrae

5 Lumbar Vertebrae

5 Sacral Vertebrae

4 Coccyx (fused together)

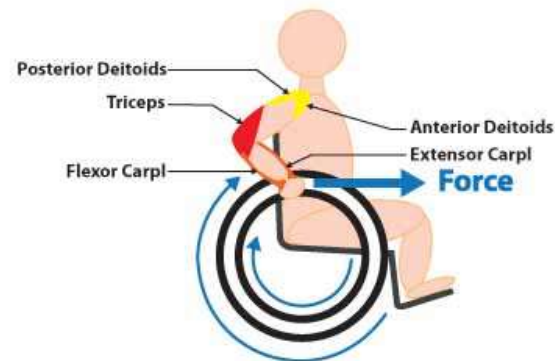


Prevention of secondary Health Complications

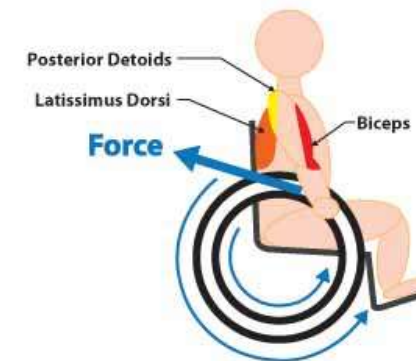
- Cardiovascular disease
- Diabetes
- Blood Pooling
- Prevention Pressure sores
- Carpal tunnel syndrome
- Overuse injuries through wheelchair propulsion
- Hypertension
- Urinary tract infections (UTI)



Pushing Biomechanics



Pulling Biomechanics

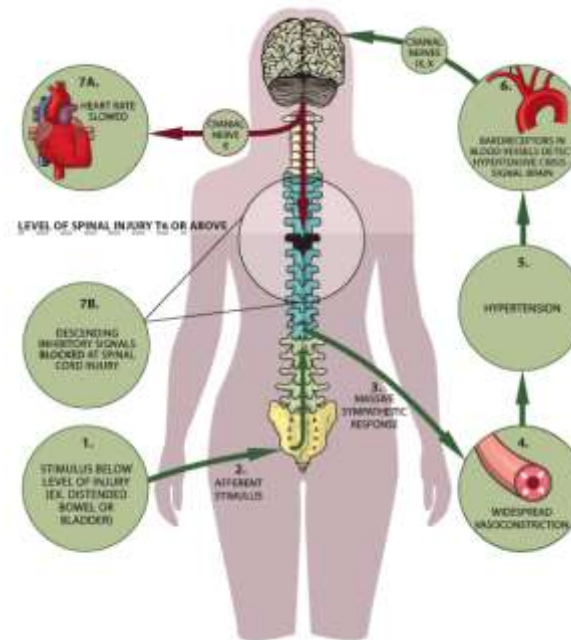


SCI SECONDARY COMPLICATIONS

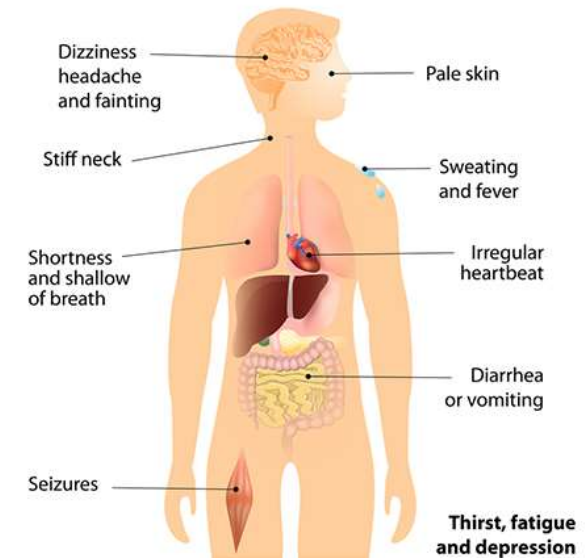
- ✘ Living longer
- ✘ Sedentary lifestyles
 - + Osteoporosis
 - + UTI
 - + Muscular atrophy
 - + Fractures
 - + Blood Pooling
 - + DVT



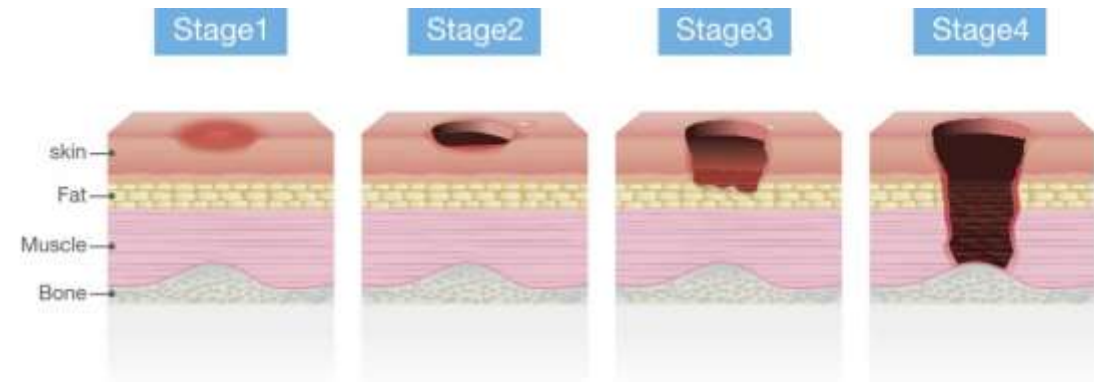
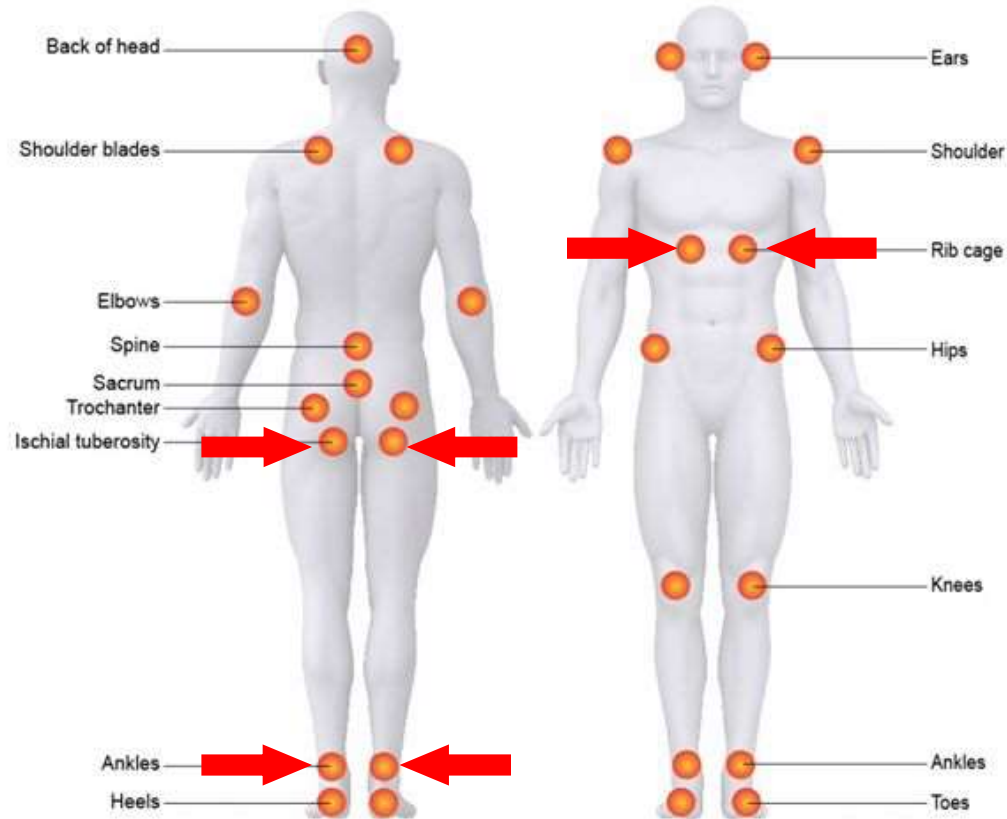
- Transfers (see section)
- Spasticity
- Spasms
- Autonomic Dysreflexia
- Orthostatic hypotension
- Thermoregulation
- Pressure sores



Hypotension signs & symptoms



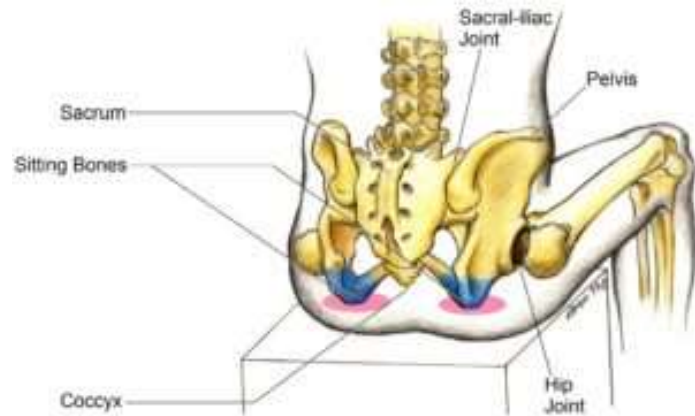
Pressure Sores



PRESSURE SORES

The **Braden Scale** for Predicting Pressure Ulcer Risk, is a tool that was developed in 1987 by Barbara Braden and Nancy Bergstrom. The purpose of the scale is to help health professionals, especially nurses, assess a patient's risk of developing a pressure ulcer

Pressure Sores



athletes who are predisposed to developing pressure sores use adequate protection - seat pad/cushion (see equipment module)

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Thank you !