



An Introduction to DSAuk - Dwarfism and Gymnastics

Nigel Burton
National Partnerships Officer



DSAuk – Who we are.

- Founded in 1993 (as DAAuk) following a visit by a handful of people to the 1st World Dwarf games held in Chicago.
- Recognised by Sport England as the National Disability Sports Organisation for people with dwarfism and restricted growth.
- User led organisation (DUPLO);
50% of the management board are end users.
Remaining 50% are AH and are parents of full members
All are volunteers.
- 810 full members (dwarf) and a further 1700+ associate members (parents, siblings, family, friends, schools, corporate).
- Staff Team;
Inclusive Sports Officer, Nigel Burton. (SE funded)
Development Officer, Tim Shephard. (CIN funded)
Regions Officer, Tom Mills. (SE funded)



Understanding Dwarfism

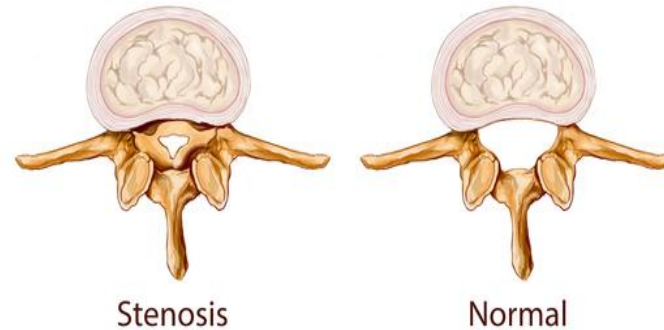
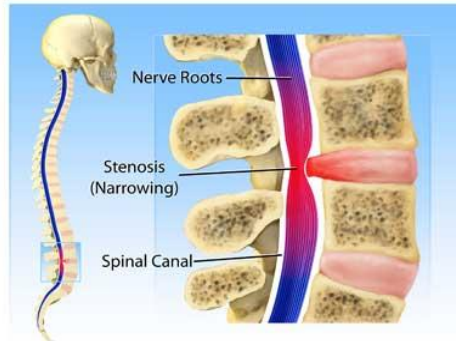
- Dwarfism is a genetic condition from birth, known as a skeletal dysplasia.
- The gene (FGFR3), which interferes with skeletal development, was discovered in 1995.
- The most common form of dwarfism is “Achondroplasia”.
- There are over 200 dwarf and restricted growth conditions with the rarest form being “Primordial Dwarfism”.
- The condition is typified as having short arms and legs and an average length trunk (sitting height is in average range for age)
- 80% of people with dwarfism are born to AH parents.
- Birth incidence for people living with Achondroplasia in the UK is estimated at approx. 1 in 25,000. (approx. 2,500 people)
- It is estimated there are up to a further 2,500 people living in the UK with other dwarf and restricted growth conditions.

Skeletal and Other Issues in Dwarfism

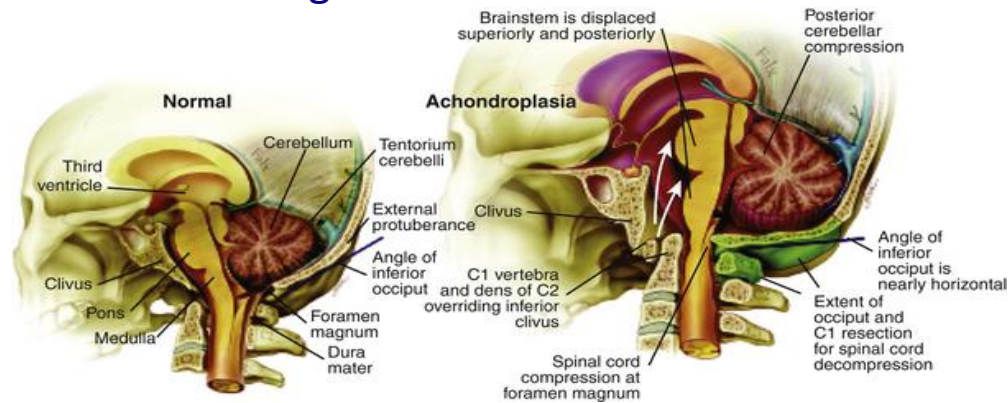
- ❖ Spinal Stenosis
 - Vertebral canal smaller than average. Narrowing can compress spinal cord.
 - Can lead to serious neurological complications.
 - Symptoms are: exaggerated tendon reflexes, shaking, numbness or tingling in the legs, limping, and muscular weakness.
 - These problems generally occur at the end of adolescence.
- ❖ Malformed Foramen Magnum
 - Hole in the skull where the spinal cord enters the head.
 - Normally spherical, but if it is malformed, it is misshapen.
 - Hyper-extension or pressure on the cervical vertebrae presents a potential risk of compressing the spinal cord, causing serious injury.
- ❖ Bowed Legs (Genu Varum)
 - Extent varies from person to person.
 - Leg bones grow at different rates, Ligaments more flexible than normal.
 - Symptoms include: visible difference in alignment of legs, difficulty walking, joint pain in hips, knees and ankles.

Problems and Complications

❖ Spinal Stenosis



❖ Malformed Foramen Magnum



Skeletal and Other Issues in Dwarfism

❖ Scoliosis

- Abnormal curvature of the spine when viewed from front or back.
- Develops in early adolescence and pain worsens into adulthood.
- Girls and women more affected than men.
- Can occur in thoracic (upper) or lumbar (lower) back areas.
- Symptoms – Shoulder blade and/or pelvis may stick out on one side of body.

❖ Kyphosis/Lordosis

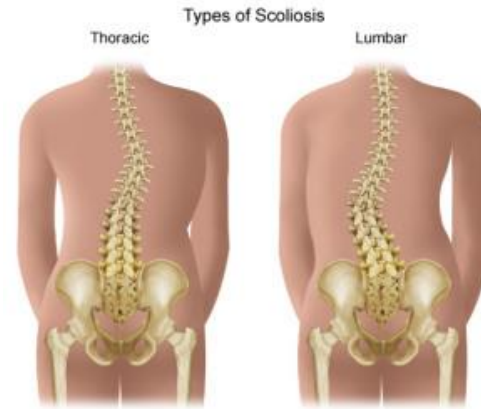
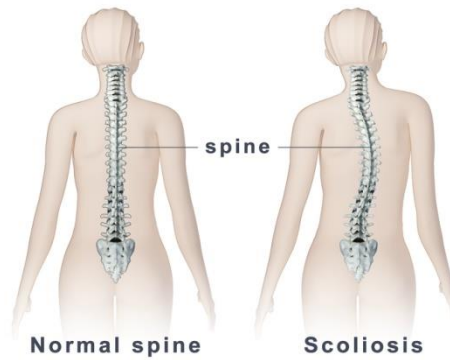
- Abnormal curvature of the spine when viewed from the side.
- Kyphosis affects thoracic (upper) back, seen as outward arching of the back.
- Kyphosis can worsen any spinal stenosis present and impair spinal function.
- Lordosis affects neck and lumbar (lower) back.
- Both start in infants due to low muscle strength, flexible ligaments, large heads and inability to keep back straight.
- Brace often worn to maintain posture whilst strength develops.

❖ Reduced Muscle Tone (Hypotonia).

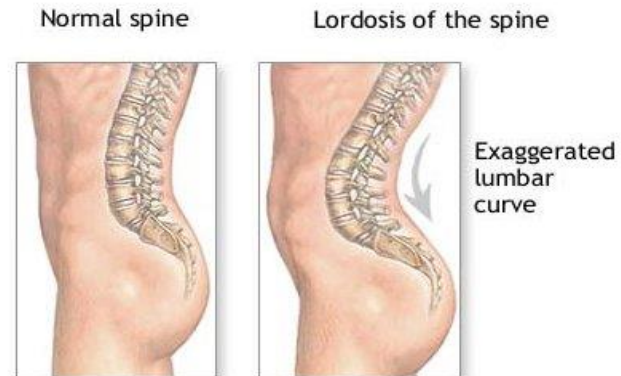
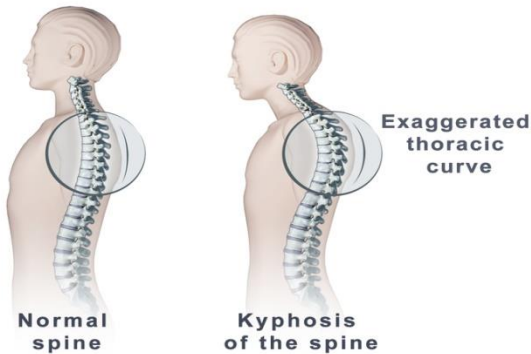
- Results from cervical stenosis
- Can cause motor delays in younger children (6 – 12 months behind).

Problems and Complications

❖ Scoliosis



❖ Kyphosis/Lordosis



Considerations for Gymnastics Coaches

- ❖ People with Achondroplasia or genetic skeletal dysplasia (other forms of dwarfism) will have:
 - Exaggerated lumbar lordosis (curvature of the lower back)
 - Spinal Stenosis (narrowing of spinal canal)Both of which will increase the jarring forces through the spine on impact.

- ❖ As such, DSAuk recommend that people with dwarfism should avoid:
 - Any activity involving an impact to the spinal area, for example, repeated impact activities like trampolining.
 - Any gymnastics skills which involve repeated jumping or rebounding and landing on a hard surface.

“It has been my experience that those people who have, in the past, participated in sports like trampolining, suffer from increased back pain symptoms and a more severe stenosis in later life.”

Kim Dean - DSAuk Physiotherapist



Considerations for Gymnastics Coaches

- ❖ People with Achondroplasia or genetic skeletal dysplasia (other forms of dwarfism) may also have:
 - A malformed foramen magnum (misshapen hole in base of skull where spinal cord enters head).
- ❖ As such, DSAuk recommend that people with dwarfism should avoid:
 - Any activity that causes a compression at the base of the neck or lower back.
 - Any gymnastic skills where there is the potential to put pressure on, or cause impact to the head or neck.

“Hyper-extension or pressure on the cervical vertebrae in this case (which may result from weight bearing on the head), presents a potential risk of compressing the spinal cord, causing serious injury.”

Kim Dean - DSAuk Physiotherapist





Recommendations for Gymnastics

- All coaches and participants should be aware of the risks associated with participation in gymnastics for dwarfs.
- Advise non participation in high impact and rebounding disciplines.
- Advise avoidance of hyper-extension of the spine, pressure on the neck and weight bearing on the head.
- Where possible, pass advice on to other coaches and associated disciplines.
- BG clubs have an advice statement for participants with dwarfism.
- BG clubs consider a participant acknowledgement form recognising:
 - Participant is aware of the risks, should they participate.
 - Participant is aware of the gymnastics activities and skills which are considered to be safer for them to perform.
 - Participant is aware of the gymnastics activities and skills which could present a risk if performed.
 - Form could be signed by the participant, parent/guardian and coach, stating all parties understand the recommendations and risks.

Recommendations for Gymnastics

- Examples of skills with reduced risk for this population are:
 - Log rolls
 - Foot balancing
 - Running / locomotion (without jumping)
 - Dancing – (without impact/jumps)
 - Elements such as Cartwheels (if the participant has long enough and strong enough arms to support the bodyweight without the head coming in contact with the floor.)
- Examples of activities regarded as having potential risk to cause short or long term damaging effects are:
 - Forward and backward rolls
 - Headstands
 - Flicks and handsprings
 - Bridges
 - Jumping / rebounding / somersaults



DSAuk – How we operate.

- National charity - registered with charities commission.
- Office base in Dronfield, nr Sheffield
- Ten regional groups operating throughout the UK
North West, North East, West Mids, East Mids, South West, South Central, South East, Scotland, Wales, Northern Ireland.
- 2 events are held every weekend throughout UK on average.
- Regional groups are all run by volunteers
- DSAuk members of all ages encouraged to participate in sport and activity at regional events and local clubs.
- Provide a local support network for people with dwarfism and their families.
“Sport is the hidden Social Worker within our community.” Lord Coe





DSAuk – Engagement.

- Membership Database;
Bespoke database system linked to website
Direct access to entire membership
Targeted access to members in specific regions
Facility to create specific groups for targeted communication.
- Website;
News feature page with RSS link to Facebook and Twitter.
Events page with timed RSS link to Facebook and Twitter.
Video Gallery and “Reachout” quarterly newsletter.
Members Area (PIN and password protected)
- Facebook, Twitter and Instagram;
RSS updates from website
Updates and reports on regional and national events.
Promotion of DSAuk events and competitions.
Promotion of NGB, CSP and partner events.





DSAuk – What we offer.

- Events - National and Regional, Competitive and Recreational.
- Impairment specific advice and support to members, key partners and service users relating to sport and activity.
- Research and Insight.
- Relationships with key partners (NGBs, CSPs, LAs).
- Relationships with non-sports partners (PHE, Health and Education Services, DPOs and DUPLOs).
- Routes to market for key partners.
- Talks and educational presentations to Schools, Colleges, Universities and other groups.
- Resource development.
- Working jointly with the other physical impairment NDSOs:





"It's not just about being the best, it's about feeling good with who you are and knowing that you can achieve anything you want to do in life as well as in sport"

Arthur Dean OBE, President DSAuk

Thanks for your attention. Any Questions?



DSAuk



We aim to make regular sport and activity opportunities accessible and enjoyable for anyone and everyone with restricted growth in the UK.

Dwarf Sports Association uk - Office

Tel: 01246 296485

Website: www.dsauk.org

Nigel Burton – National Partnerships Officer

Mob: 07712 572884

Email: nigel.burton@dsauk.org

Thomas Mills – Region Development Officer

Mob: 07733 417230

Email: tom.mills@dsauk.org

