

Fact sheet on Down's syndrome - athletics

What is Down's syndrome?

- Down's syndrome is a genetic condition which is present from the moment of conception. People with Down's syndrome have an extra copy of chromosome 21 in their cells
- For every 1,000 babies born, 1 will have Down's syndrome. There are approximately 40,000 people with Down's syndrome living in the UK

Health conditions associated with Down's syndrome

- The extra chromosome can cause common physical features, such as hypotonia (relaxed muscle tone) and hypermobility
- There are possible health conditions associated with Down's syndrome, such as congenital heart defect, hypothyroidism, respiratory and gastrointestinal problems, vision and hearing impairments
- All people with Down's syndrome will have poorer visual acuity, which means they struggle to see the world clearly and may have issues with depth perception
- All people with Down's syndrome will have a learning disability of some form. This does not mean they cannot learn, it just means they need additional support to learn. People with Down's syndrome are often strong visual learners and many people enjoy social situations
- People with Down's syndrome will follow the same developmental pathway as a person without Down's syndrome; achievements of milestones will differ for individuals due to highly varied developmental delays and individual needs. A supportive and an inclusive society are crucial indicators of success
- Craniovertebral Instability – people with Down's syndrome are more susceptible to craniovertebral instability due to a tendency for lax ligaments and lower muscle tone. This can lead to excessive movement between the atlas and axis vertebrae at the top of the neck, which in severe cases can lead to a range of neurological problems from mild aches and pains to paralysis. It is very clear that very few sporting injuries have ever been recorded in people with Down's syndrome which could have been caused by craniovertebral instability
- Hip Instability – people with Down's syndrome are more susceptible to hip instability due to a tendency for lax ligaments and lower muscle tone. This can lead to excessive mobility in the hip and in severe cases dislocation
- Athletics - Due to the increased susceptibility for people with Down's syndrome to craniovertebral instability and hip instability, we recommend that people with Down's syndrome **do not** participate in the **high jump, triple jump, long jump, pole vault or long distance running** without having been screened by

their GP or health professional. For more information please contact the [DSActive team](#) or see the [DSA Health Series](#)

Myths and Truths

Truths	Myths
Can and do live long and rewarding life's	Have short life expectancy
Experience the same range of emotions as anyone	Are always happy and affectionate
Are likely to be weaker due to hypotonia	Are extremely strong
Are born to mothers of all ages, including younger mothers	Are only born to older mothers
Are more likely to look like family members than another person with Down's syndrome	All look the same

Terminology

It is vital to speak about issues relating to Down's syndrome in a way that is both factually accurate and inoffensive to people with Down's syndrome, their families, carers and the people who support them. People with Down's syndrome are all unique individuals and should be acknowledged as a person first and foremost. Down's syndrome is only a part of the person; they should never be referred to as "a Down's" or "a Down's person". For more information see our [Terminology Guide](#).

Activity levels of people with Down's syndrome

One study found that 44% of people with Down's syndrome surveyed were obese and a further 29% were overweight. Only 16% of adults with Down's syndrome were meeting the government's physical activity recommendations

Learning profile of people with Down's syndrome

Relative Challenges	Relative Strengths
Hearing and vision impairments	Learning through modelling and copying
Delayed motor skills	Receptive vocabulary
Short-term memory	Social skills and engaging with others
Expressive language	Structure and routine
Widely varying developmental delays	Visual-spatial learners

Coaching Considerations

- Communication – Start with singular commands or points to allow athletes to fully grasp and subsequently retain information
- Progressions – Make progressions slight and gradual to support people to learn new skills and adapt to changes
- Demonstrate – Demonstrate the skills in the sessions, as learning through modelling is a strength for many people with Down's syndrome
- Adaptability – Ensure that the session is always adaptable and achievable for each athlete as there might be a wide range of physical, technical and cognitive ability
- Routine – People with Down's syndrome often like to follow a routine as it helps reduce anxiety and increases confidence
- Self-confidence – People with Down's syndrome may have negative previous experiences with physical activity so it is important to improve their confidence by making the session fun, engaging and achievable
- Promote positive behaviour – It is important to acknowledge and praise good behaviour as this will make attending the session a positive experience which will increase the chance of the person wanting to return to the session

Athletics

- Use adapted equipment for throws – Due to hypotonia and hypermobility people with Down's syndrome are generally weaker than someone without Down's syndrome, so use adapted equipment when teaching throws such as foam javelins
- Position of coach – People with Down's syndrome have poorer visual acuity and hearing impairments, so make sure that your participants are close to you and looking at you when giving instructions to ensure you are heard
- Physical prompts – All people with Down's syndrome have a form of learning disability, so using physical prompts can help with the learning of a new skill. For example, to increase the knee drive in sprinting try holding a pad or symbol in front of the participants knee
- Long distance running – People with Down's syndrome have an increased susceptibility to hip instability, therefore, increasing the distance of runs should be done gradually

DSActive provides opportunities for people with Down's syndrome to live healthy and active lives. For more information have a look at our website www.dsactive.org.uk or email dsactive@downs-syndrome.org.uk