

FACT SHEET

About cerebral palsy¹

- Cerebral palsy is an umbrella term that refers to a group of disorders affecting a person's ability to move. It is a permanent life-long condition, but generally does not worsen over time. It is due to damage to the developing brain either during pregnancy, at birth or shortly after birth.
- Cerebral palsy is the most common physical disability in childhood. It is estimated that every 15 hours an Australian child is born with cerebral palsy. In Australia there are approximately 34,000 people living with the condition.
- Cerebral palsy affects people in different ways and can affect body movement, muscle control, muscle coordination, muscle tone, reflexes, posture and balance. People with the condition may also have epilepsy, and visual, learning, hearing, speech and intellectual impairments.
- The parts of the body affected by cerebral palsy, the level of severity and combination of symptoms can differ for each person. For example, one person may have a weakness in one hand and find tasks like writing or tying shoelaces challenging, whilst another person may have little or no control over their movements or speech and require 24 hour assistance.
- People with cerebral palsy may experience uncontrolled or unpredictable movements, muscles can be stiff, weak or tight and in some cases people have shaky movements or tremors. People with severe cerebral palsy may also have difficulties with swallowing, head and neck control, bladder and bowel control, eating and drinking, and have dental and digestive problems.
- For some people with cerebral palsy, the cause is unknown. There is no known cure for cerebral palsy.
- Although cerebral palsy is a lifelong disability, there are many interventions that can improve function and the individual's quality of life. An intervention is a service that aims to improve the condition of cerebral palsy and the day-to-day experience of the person living with it.

More information about cerebral palsy can be accessed at
<https://www.cerebralthirst.org.au/about-cerebral-palsy/>
and <https://research.cerebralthirst.org.au/>

About cord blood and cord blood banking²

- Cord blood is the blood that remains in a baby's umbilical cord and placenta after the baby has been born and the umbilical cord has been cut.
- Cord blood contains a diverse mixture of cells. It is a particularly rich source of particular stem cells and immune cells, which have the ability to develop and repair many different cell types. For this reason, cord blood is increasingly being used for bone marrow transplants to treat certain cancers and immune disorders. In addition cord blood is being researched in other conditions such as cerebral palsy and type 1 diabetes, for its regenerative properties
- Due to their flexibility and diversity, the cells found in cord blood are considered promising in improving the treatment of many diseases, including heart disease, stroke, diabetes and neurological disorders.
- Cord blood banking is the process of collecting the blood from the umbilical cord immediately after birth and cryogenically storing it for potential medical uses.
- The process is a simple, painless one and only takes a few minutes following birth. The cord blood is collected into a sterile collection bag. After the cord blood has been collected, it is transported to a processing laboratory where it is tested. The unwanted plasma is then removed (a process called fractionation) and the remaining cells are cryogenically stored at -196 C.
- Tests have shown that cells remain viable through this process, and the evidence suggests they can be stored indefinitely and thawed back into healthy potent cells when needed.

Cord blood and cerebral palsy

- Published clinical trials using cord blood in cerebral palsy have demonstrated encouraging results as a potential future treatment.
- International published trials have reported treatment of more than 200 children with cerebral palsy with their own (autologous) and other (allogeneic) cord blood. These studies have indicated the safety of treatment with cord blood and further studies are underway around the world to determine efficacy.
- A 2012 clinical trial conducted in Korea involved 96 children with cerebral palsy, a third of whom received cord blood therapy. The cord blood treated group demonstrated slight improvements in both cognitive (mental) and motor (movement) measures compared to other children in the trial. This trial used cord blood from unrelated donors, however demonstrated a trend towards greater benefits for participants who received highly matched cord blood.
- Cell Care recently commenced offering free collection and storage of cord blood for siblings of children with cerebral palsy. This is an important step towards improving the treatment options available for Australian children with cerebral palsy and ensures these stem cells are collected in



a fully audited and government-approved manner so that they will be available for use in future clinical trials in Australia.

- The cerebral palsy cord blood collection program aims to ensure as many families of children with cerebral palsy as possible have access to this trial and future trials and therapies that cord blood may offer. This study is using cord blood which is a full match for the sibling with CP. About one in four of these samples of sibling cord blood will be a full match for the child with cerebral palsy and hence potentially able to be used in either this current Australian trial. The remainder will be a partial match or non match and therefore will not be suitable for this trial. Other studies are investigating the use of partially matched sibling cord blood.
- As the largest and most experienced private cord blood bank in Australia, Cell Care is fully licensed by the Therapeutic Good Administration (TGA) to store cord blood. It is more than fitting for Cell Care to partner with Cerebral Palsy Alliance on this initiative.

More information about cord blood collection can be accessed at www.cellcareaustralia.com

References:

1. About Cerebral Palsy. Cerebral Palsy Alliance. Available at <https://www.cerebralthp.org.au/about-cerebral-palsy/>. Accessed on 8 April 2015
2. What is Cord Blood. Cell Care Australia. Available at www.cellcareaustralia.com. Accessed 8 April 2015