



Chronic Traumatic Encephalopathy

Repeated, mild ABIs, such as concussions experienced by professional sports people like boxers and footballers, can be related to a neurodegenerative condition known as Chronic Traumatic Encephalopathy (CTE).

In Sports

This condition was recognised in boxers some decades ago, historically being referred to as 'punch-drunk syndrome' (Buckland, 2019).

Recently a significant correlation between CTE and American football has become evident, with symptoms such as memory disturbances and signs of depression.

In Australia, cases are now being identified in players from professional sports such as Rugby, NRL and AFL.

This condition has also been found in war veterans who have experienced repeated, mild head traumas. CTE can occur at any age and can present years after the repetitive contact stops.

Effects of CTE:

- Difficulties with balance and motor skills
- Depression
- Disturbances to memory
- Staggered gait
- Psychotic symptoms
- Significant behavioral changes such as aggression or depression
- Initial symptoms of Parkinson's disease (Mckee et al. 2010).

Risk Factors:

It is currently understood that the only risk factor for CTE is repeated, traumatic brain injury (Buckland, 2019), and many repetitive knocks over a number of years – even ones that don't result in obvious concussion - puts players at a higher risk.

Diagnosis

There are still gaps in the research . At the moment, a confirmed diagnosis can only be made at autopsy, as brain tissue samples are required (Concussion Foundation, 2020). However, as imaging and other testing technologies improve, it is hoped that other methods of diagnosing the condition will be developed.

References

Buckland, M.E., Sy, J., Szentmariay, I. et al. (2019), Chronic traumatic encephalopathy in two former Australian National Rugby League players. *Acta Neuropathol Commun* 7(97), doi.org/10.1186/s40478-019-0751-1

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