

Low-level blast exposure and TBI



Low-level blasts (LLB) are explosions that involve lower blast pressures.

While single exposure to LLB is unlikely to cause overt signs and symptoms of traumatic brain injury (TBI), repeated exposure to LLB may be detrimental to brain health and have cumulative effects over time.

Who is at risk of LLB exposure?

Military personnel are most likely to be exposed to LLB, particularly from firing heavy weapon systems in combat or training environments, as well as some types of explosives used in combat and training exercises.

In Australia, military occupations and weapons systems that can increase risk of exposure to LLB include:

- Royal Australian Navy:
 - Clearance Divers
 - Naval Gunners
- Australian Army Arms Corps (including instructors):
 - Infantry
 - Armour
 - Artillery
 - Combat Engineers
- Royal Australian Air Force:
 - Combat Controllers
- Special Forces
- Australian Police Tactical Groups
- Any personnel working with breaching charges, shoulder mounted weapons, large calibre weapons, indirect fire weapons (mortar weapons systems), artillery

Research is still emerging on the potential health effects of LLB exposure

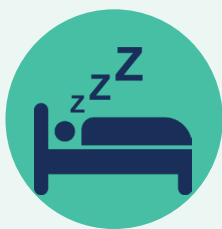
While research is still emerging on the full extent of the potential health effects of LLB exposure, existing studies indicate that repeated LLB can be a significant problem for brain health and may affect brain structure and function.

LLB do not usually cause mild traumatic brain injury (concussion) from a single exposure. However, it may cause **subconcussion** – a type of head injury that does not present with any observable symptoms. Frequent exposure to LLB may result in cumulative effects and worsen outcomes from injury.

LLB exposure may cause the following symptoms:



Neuropsychiatric Symptoms
(e.g. irritability, depression, anxiety)



Sleep disturbances



Decreased hand-eye coordination



Cognitive Impairments (e.g. concentration, memory, slowed reaction time)



Tinnitus
(ringing in the ears)



Difficulty hearing/
hearing loss



Headaches



Brain-inflammation
(e.g. may cause brain fog, low mood, and previously mentioned symptoms)

Seeking help for LLB exposure

If you or someone you know has been exposed to LLB and/or is experiencing ongoing problems speak to your doctor. They will help develop a management plan and refer you to any specialist services you may need.

Learn More

Click on the QR code to visit the 'Blast-related TBI' webpage and view the 'Blast-related TBI' fact sheet.



Connectivity
Traumatic Brain Injury Australia

More information Connectivity Traumatic Brain Injury Australia is an Australia-wide not-for-profit organisation working to raise awareness of concussion and traumatic brain injury in the community. For more information on LLB exposure and TBI, you can speak to your doctor, healthcare professional, or visit the Connectivity website at www.connectivity.org.au

Disclaimer This flyer and the Connectivity website do not offer medical advice for individuals. If you have suffered a traumatic brain injury, please seek medical advice.

Acknowledgements This flyer features some material that has been adapted from the US Department of Defense Provider Fact Sheet July 2023 Information on Low-Level Blast Exposure. With thanks to Vigil Australia.