Research shows brain's ability to overcome pain and thirst

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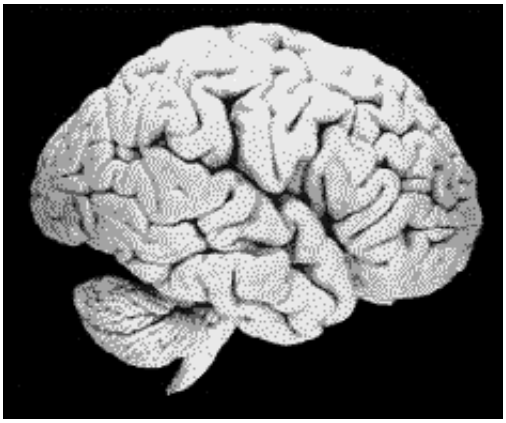

Researchers at Melbourne's Howard Florey Institute have discovered how the brain prioritises pain and thirst in order to survive - a mechanism that helps elite athletes to 'push through the pain barrier'. The Florey's Dr Michael Farrell and colleagues discovered that pain sensitivity is enhanced when people are thirsty.

The scientists also found that a part of the brain is uniquely activated when pain and thirst are experienced together, suggesting these regions may act as an integrative centre that has a special role in modifying pain senses.

Dr Farrell used PET (Positron Emission Tomography) scans to examine

changes in brain activity. The 10 individuals participating in the study were given saline injections to stimulate mild thirst and thumb pressure to induce mild pain. Although the level of thumb pressure remained constant throughout the tests, as people became thirstier, they felt more pain.

Dr Farrell said the regions of the brain (the pregenual cingulate cortex and ventral orbitofrontal cortex) activated together during thirst and pain acted like a priority switch.

"Depending on internal demands being placed on the body, the brain needs to decide which demand is more important to respond to in order to survive," he said.

"Many elite athletes have an ability to balance their priority switch longer than most people so they can push through normal thresholds of pain and thirst whilst competing."

"But when the internal demands become extreme and the body's physiology is too perturbed, the brain will tell the body 'enough is enough,'" Dr Farrell said.

Source: Research Australia