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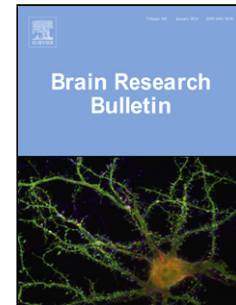
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## **Magnesium Administration after Experimental Traumatic Brain Injury Improves Decision-Making Skills**

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### **Highlights**

- The evaluation of decision-making skills were sufficiently assessed by the dig-task.
- Magnesium administration improved decision-making skills in rodents with TBI.
- Magnesium administration resulted in the improvement of motor skills after TBI.

### **Abstract**

After sustaining a traumatic brain injury (TBI), a person's ability to make daily decisions can be affected. Simple tasks such as, deciding what to wear are no longer effortless choices, but are instead difficult decisions. This study explored the use of a discrimination task with a magnesium treatment in order to examine how decision-making skills are affected after TBI and if the treatment helped to attenuate cognitive and motor impairments. Thirty-one male rats were separated into MAG/TBI, VEH/TBI, or VEH/Sham groups. Pre-TBI, rats were trained to dig in the sand for a reinforcer. After establishment of consistent digging behavior rats received a bilateral frontal cortex injury. Rats received either an i.p. injection of 2 mmol/kg magnesium chloride or control at 4, 24, 72 hours post-surgery. Dig task testing began 7 days post-

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