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**Table 2:** Summary of preclinical animal studies investigating the effect of pain on cognition

| <b>Pain model</b>   | <b>Species</b> | <b>Cognitive test</b>                                     | <b>Cognitive domain</b>                            | <b>Key Findings</b>  | <b>Reference</b>            |
|---|----------------|---|--|--|-----------------------------|
| CFA-induced inflammatory pain                               | Rat            | Operant delayed non-matching to position lever press task | Spatial learning, recognition memory and attention | Decrease in accuracy and decrease in number of rewards earned in pain model  | Cain et al. (1997)          |
| CFA-induced inflammatory pain                               | Rat            | Operant delayed non-matching to position lever press task | Spatial learning, recognition memory and attention | Decrease in accuracy and decrease in response latency  | Lindner et al. (1999)       |
| 2, 4, 6-trinitrobenzene-induced inflammatory pain (colitis) | Rat            | Novel object recognition                                  | Recognition memory, attention                      | Decrease in attention towards novel object in pain model   | Millecamps et al. (2004)    |
| Formalin-induced inflammatory pain                          | Rat            | Operant nose-poke task                                    | Attention  | Increased number of omissions in pain model  | Boyette-Davis et al. (2008) |
| CFA-induced inflammatory pain                               | Rat            | Operant nose-poke task                                    | Attention  | Decrease in accuracy, increased number of omissions and increase in preservative responses in pain model                                   | Pais-Vieira (2009a)         |
| Kaolin-induced inflammatory pain                            | Rat            | Rodent gambling task                                      | Emotional decision making                          | Increased preference for high risk level associated with larger, more infrequent rewards in pain model                                     | Ji et al. (2010)            |
| Carageenan-induced inflammatory pain                        | Rat            | Rodent gambling task                                      | Emotional decision making                          | Increased preference for high risk level associated with larger, more infrequent rewards and increase in number of omissions in pain model | Pais-Vieira et al. (2009b)  |

| <b>Pain model</b>                       | <b>Species</b> | <b>Cognitive test</b>                                    | <b>Cognitive domain</b>                               | <b>Key Findings</b>  | <b>Reference</b>            |
|---|----------------|--|---|--|-----------------------------|
| L5 transection-induced neuropathic pain | Rat            | Morris Water maze (acquisition and probe)                | Spatial learning and memory                           | Increased latency to platform during acquisition and decreased frequency in platform zone during probe in pain model | Hu et al. (2010)            |
| SNI model of neuropathic pain           | Rat            | Morris Water maze (traditional acquisition and reversal) | Spatial learning and memory and cognitive flexibility | Decreased % of distance swam in new platform location and increased % in old location in pain model                  | Leite-Almeida et al. (2009) |
| SNL model of neuropathic pain           | Mouse          | Passive avoidance  | Aversive learning                                     | No impairment of passive avoidance response in pain model  | Suzuki et al. (2007)        |

Abbreviations: CFA: complete Freund's adjuvant, SNI: spared nerve injury, SNL: spinal nerve ligation