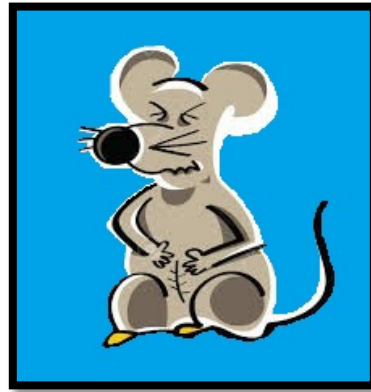
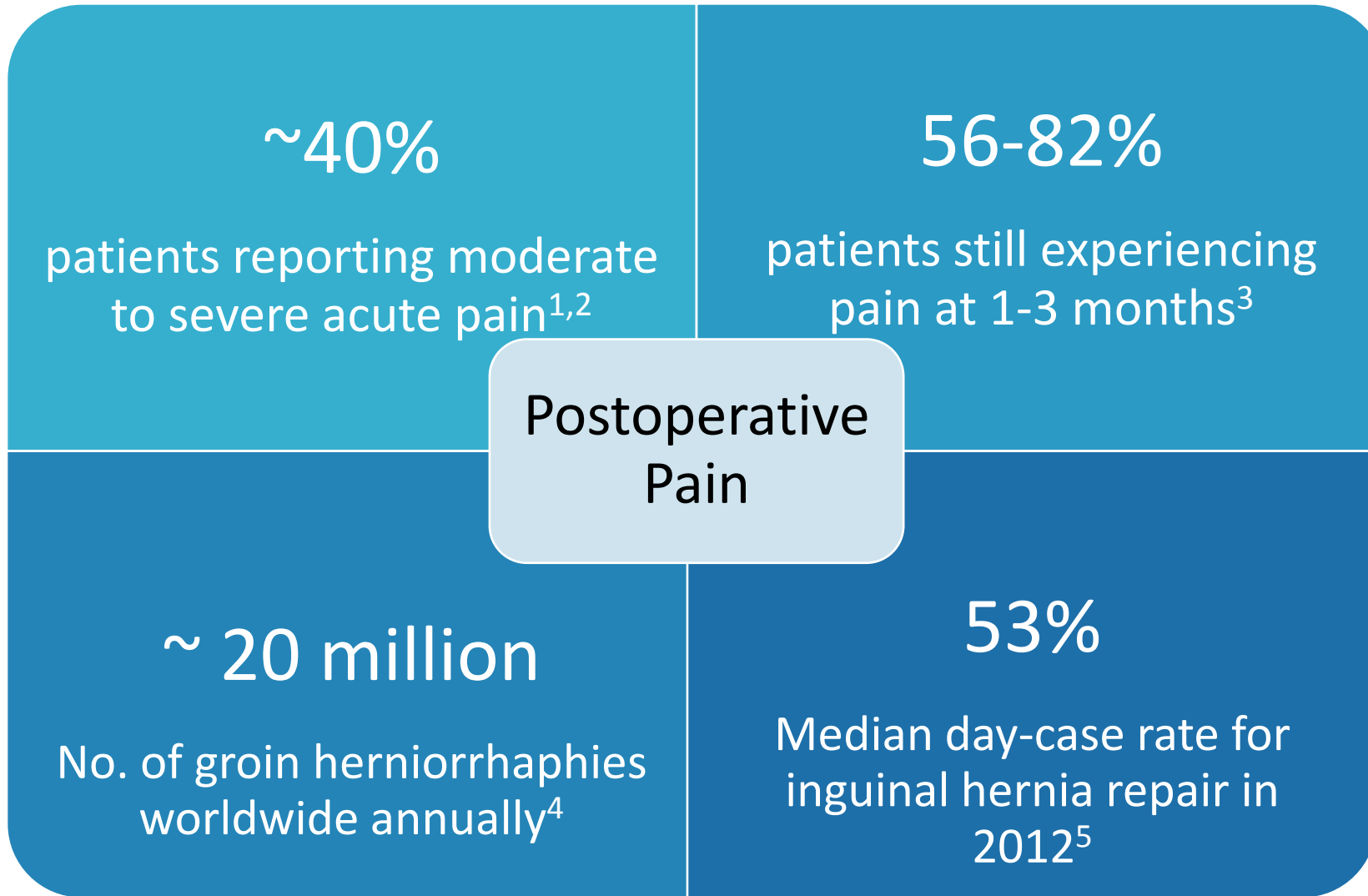


# Characterisation of Affective Responding and the Endocannabinoid System in a Rat Model of Acute Postoperative Pain Following Inguinal Hernia Repair

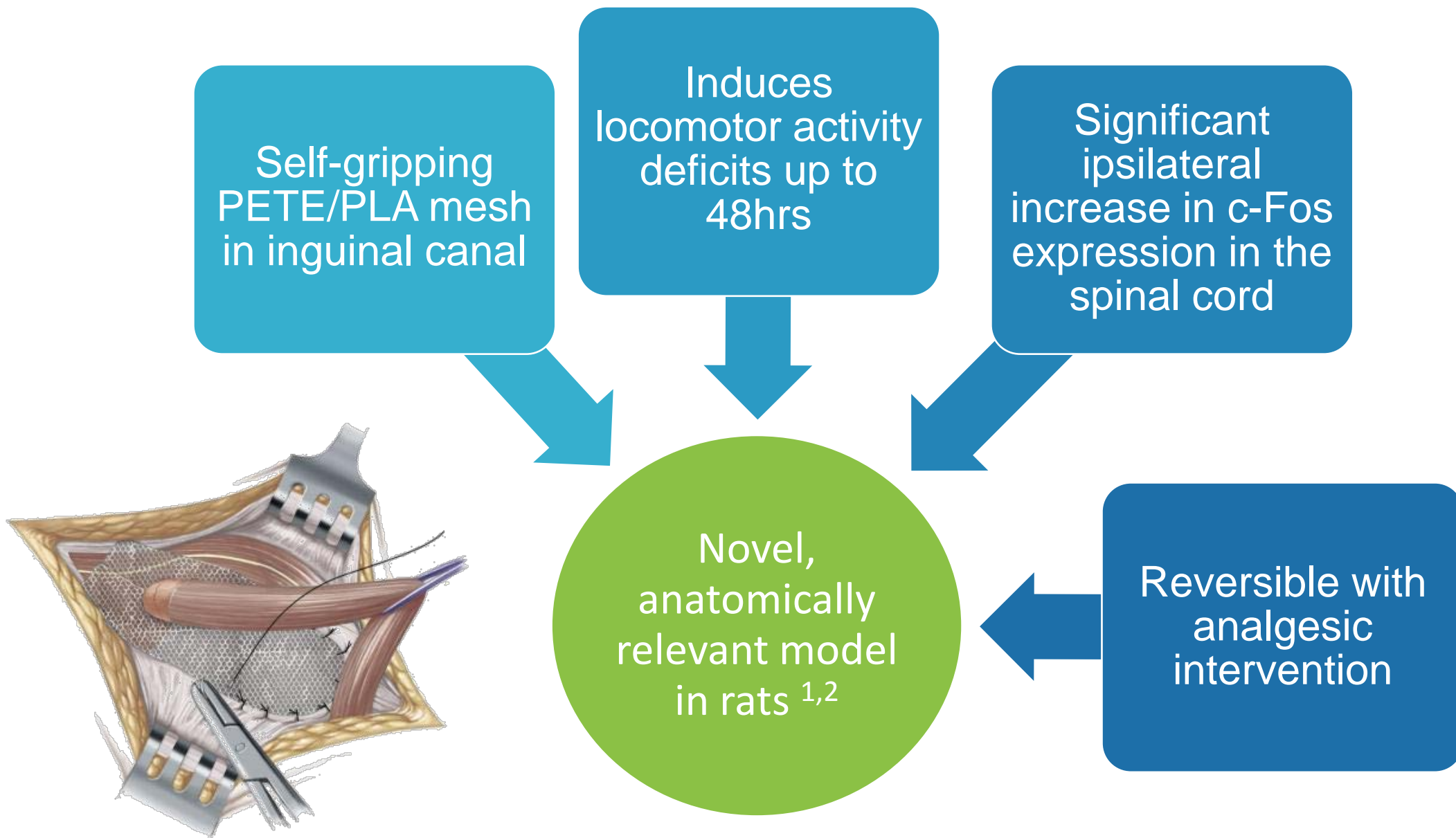


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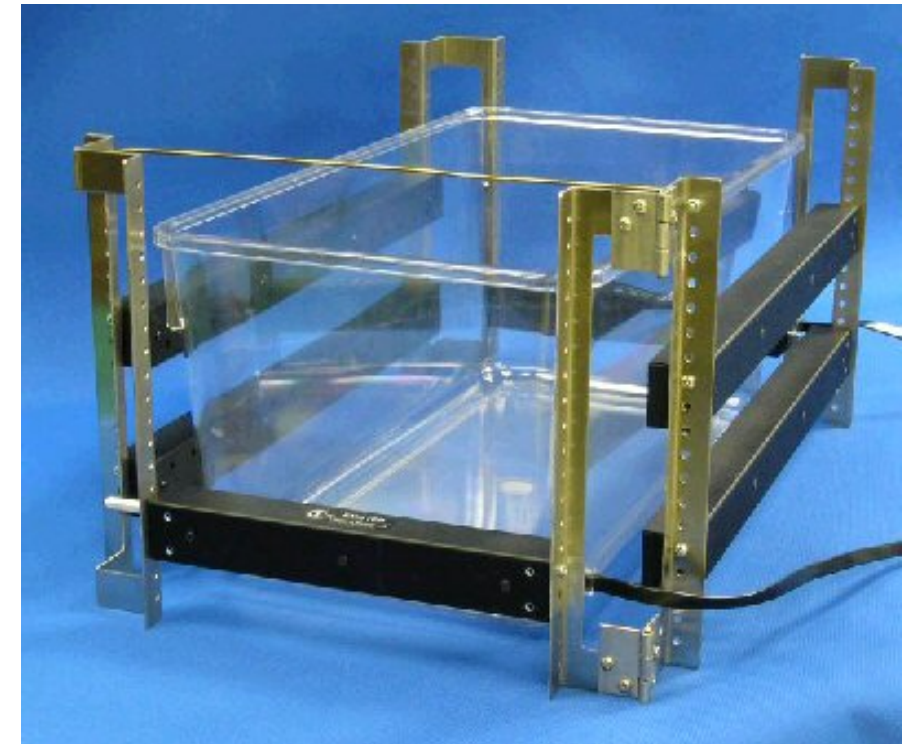
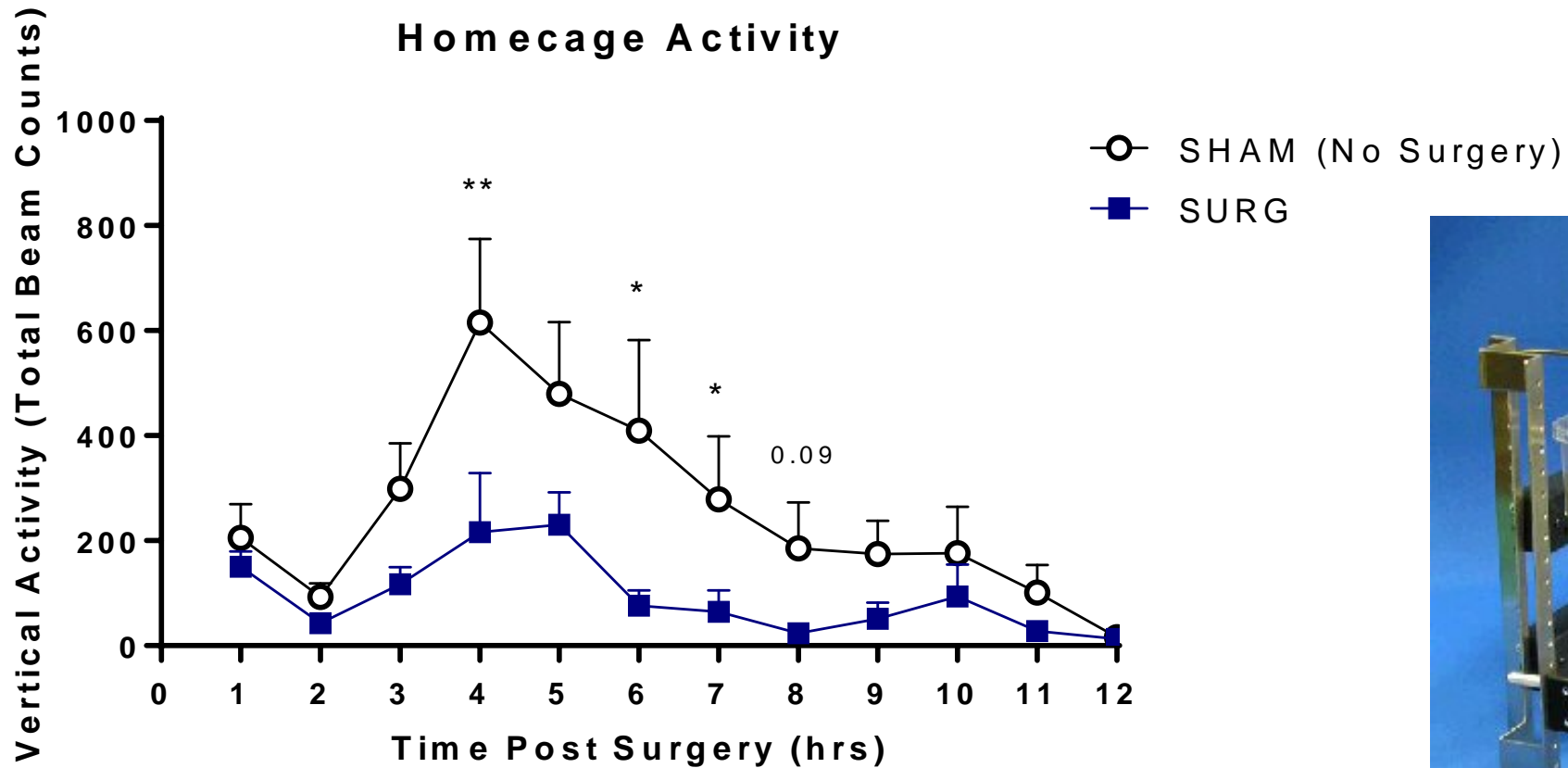
<sup>1</sup>Massaron et al., 2007; <sup>2</sup>McGrath et al., 2004; <sup>3</sup>O'Dwyer et al., 2005; <sup>4</sup>Bay-Nielsen et al., 2001; Comptroller & Auditor General Special Report, 2012<sup>5</sup>



<sup>1</sup>Bree et al., (2015) J Pain. 16(5):421-435; <sup>2</sup>Bree et al., (2016). CNS Neurosci Ther. 22(2):146-153.

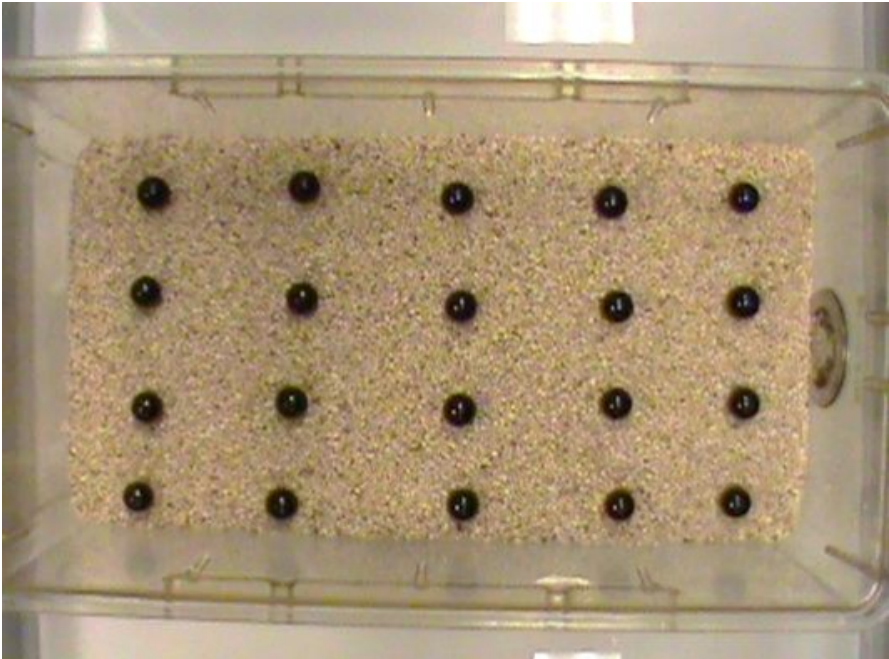
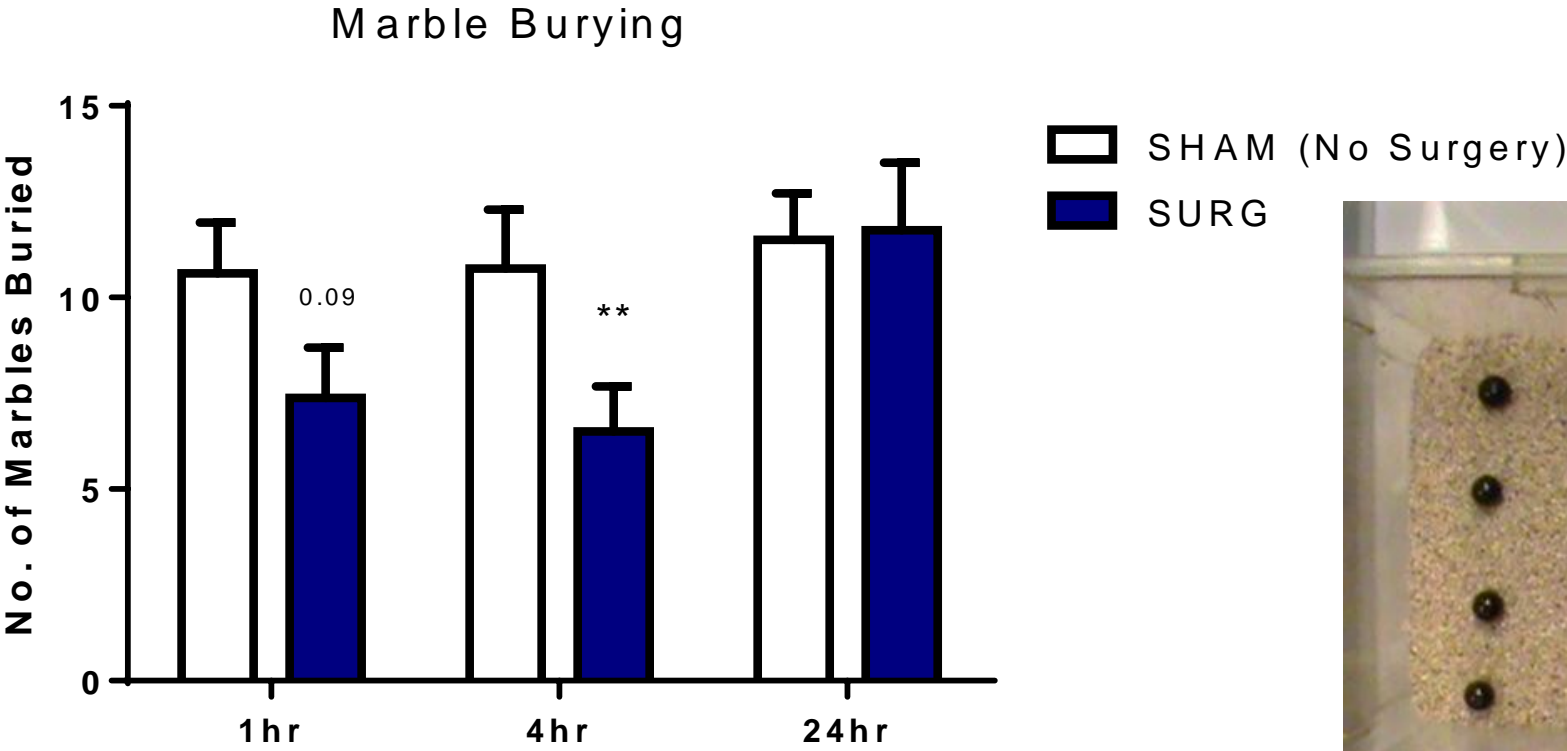
- ▶ Examine depression and anxiety-related behaviours in the model at timepoints where evidence thus far suggests the pain is no longer present
- ▶ First analysis of inguinal tissue in the model
  - ▶ Endocannabinoid system

# Results – Surgery-related reductions in locomotor activity up to 12 hours post surgery



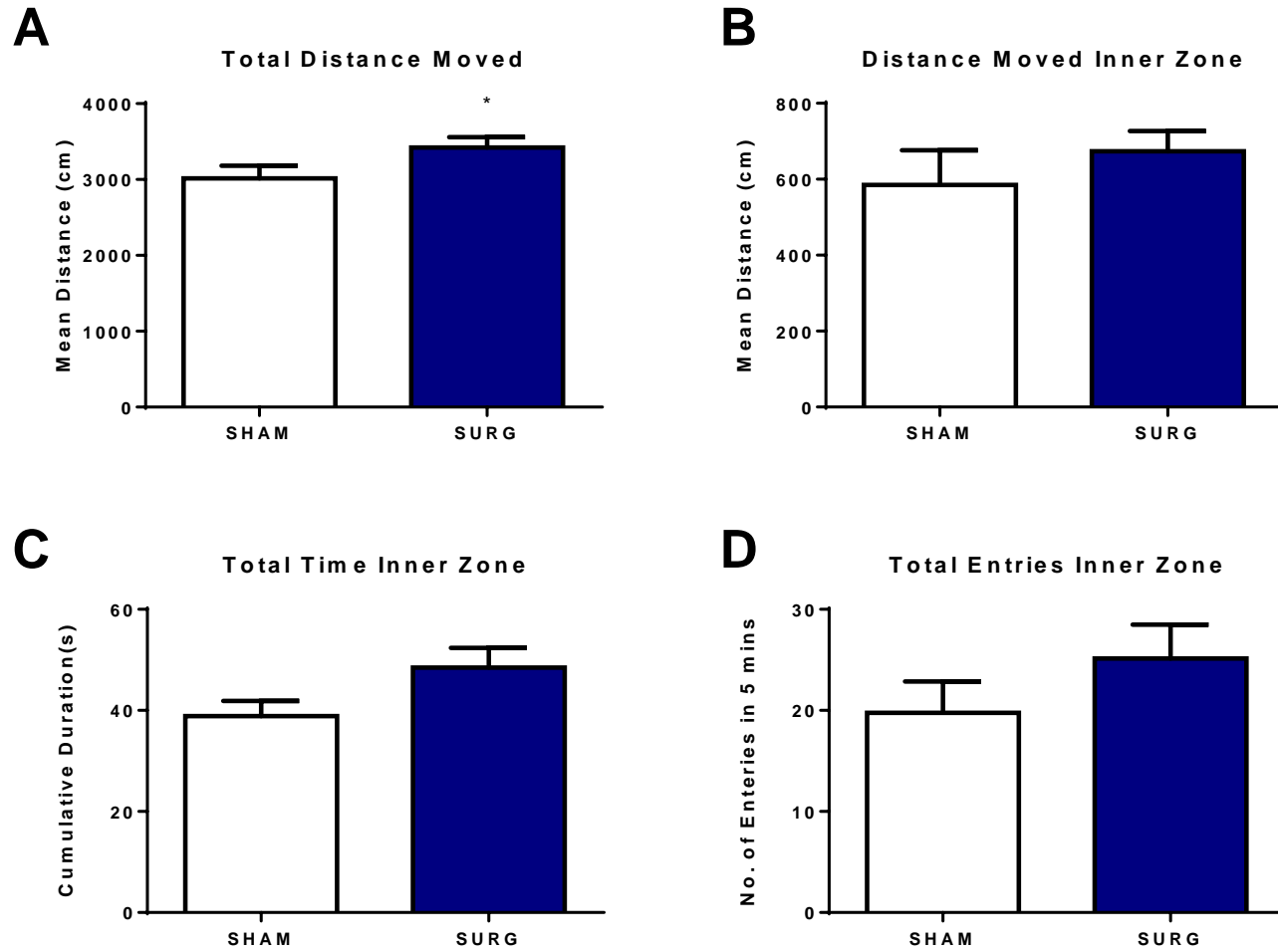
Data are Mean  $\pm$  SEM; N=8/group. \*\* $p < 0.01$ ; \* $p < 0.05$  vs. SHAM.

# Results – Surgery-related reduction in the no. of marbles buried at 4h



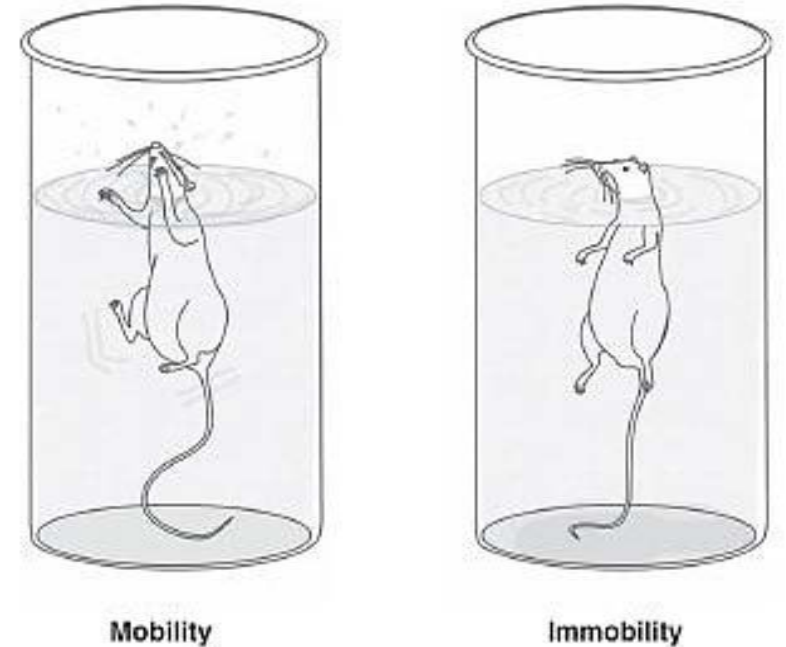
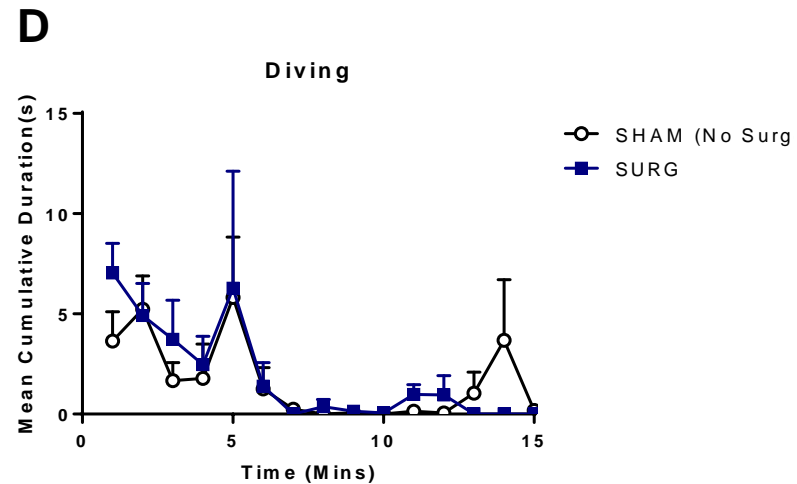
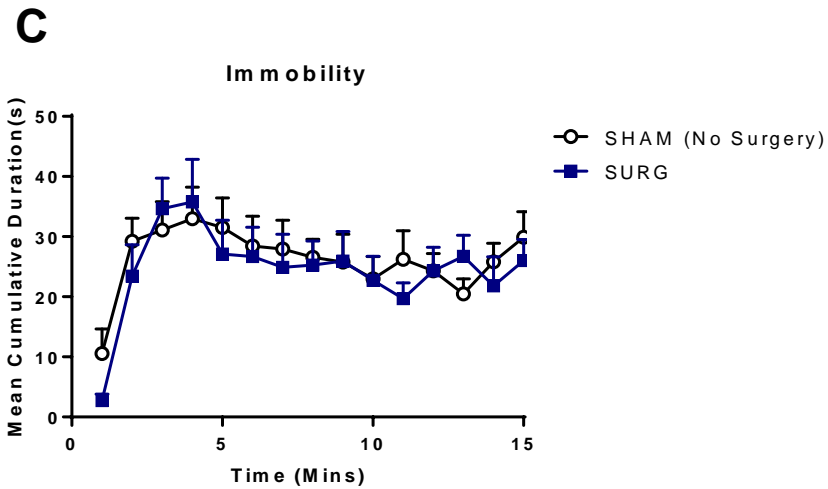
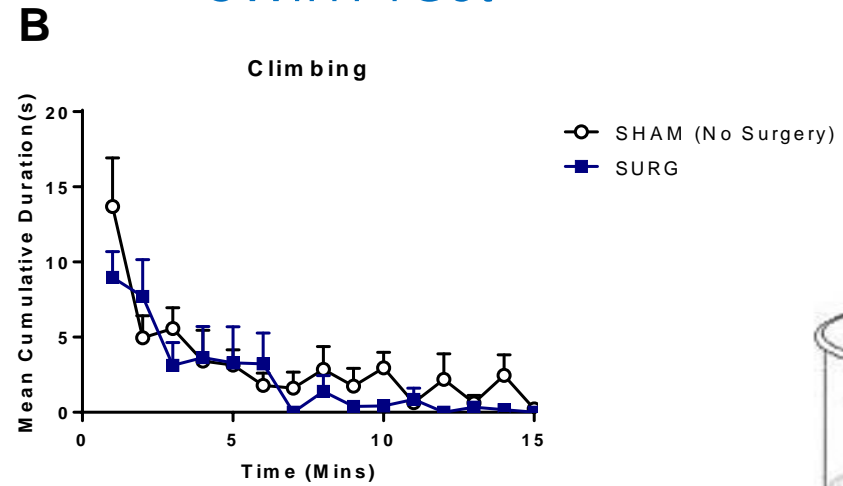
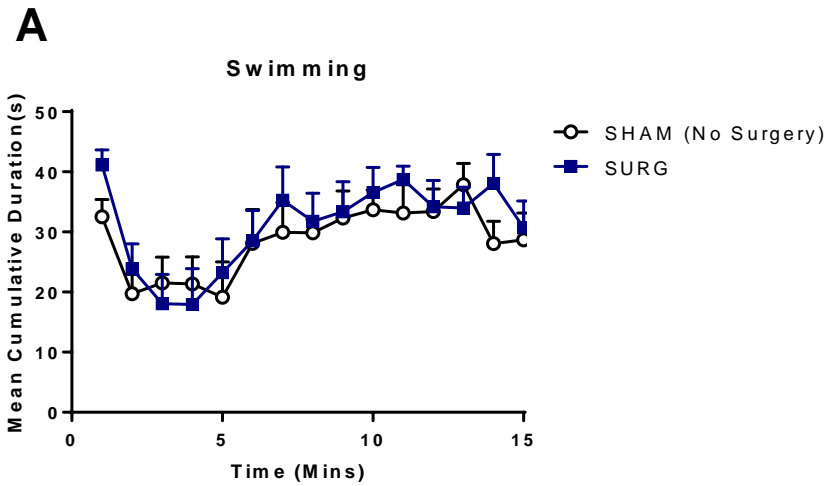
Data are Mean ±SEM; N=8/group. \*\*p<0.01; \*p<0.05 vs. SHAM.

# Results – No post-surgery effect on anxiety-related behaviours: Open Field



Data are Mean  $\pm$ SEM; N=8/group. \*p<0.05 vs. SHAM.

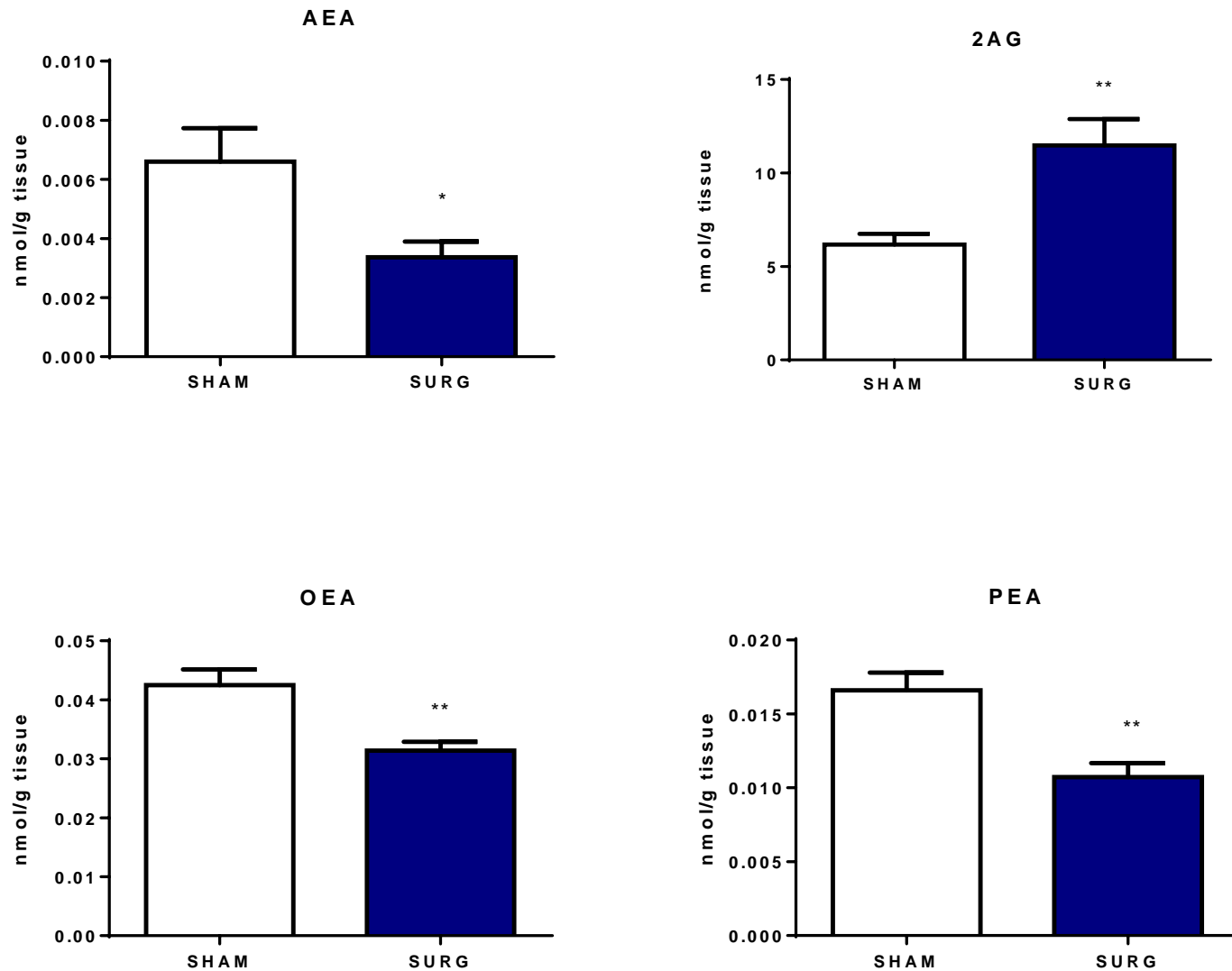
# Results – No post-surgery effect on depression-related behaviours: Forced Swim Test



Data are Mean  $\pm$ SEM; N=8/group.

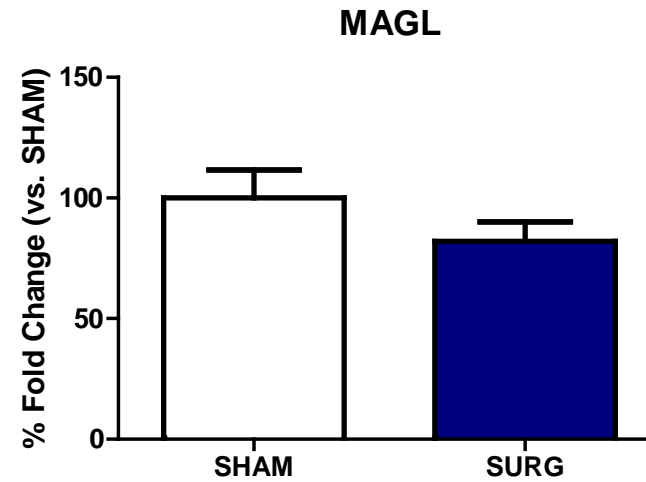
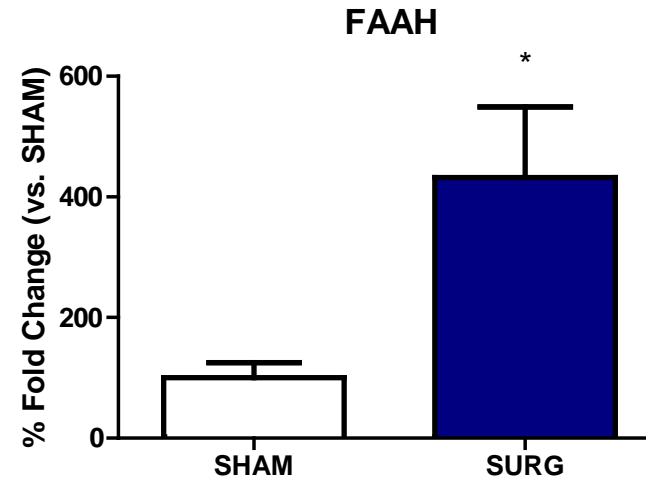


# Results –Significant reduction in N-acylethanolamines and an increase in 2-AG in inguinal tissue



Data are Mean  $\pm$ SEM; N=8/group. \*\* $p$ <0.01; \* $p$ <0.05 vs. SHAM.

# Results – Significant mRNA increase in FAAH, metabolising enzyme of N-acylethanolamines, in inguinal tissue



Data are Mean  $\pm$  SEM; N=8/group. \* $p$ <0.05 vs. SHAM.

- ▶ Surgery did not affect anxiety or depression-related behaviours at the timepoints studied.
- ▶ Surgery induced significant changes in endocannabinoids and N-acylethanolamines and their metabolising enzymes in inguinal tissue at 12 days post surgery.

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