

ClearH₂O

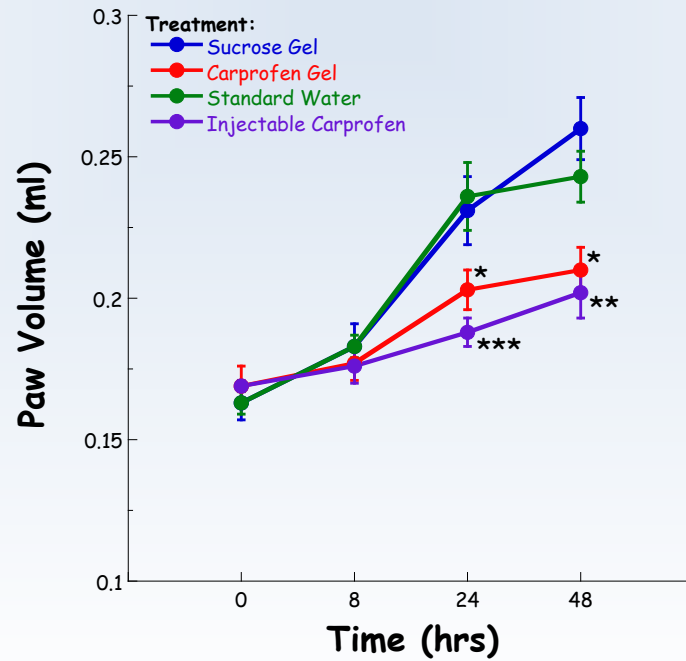
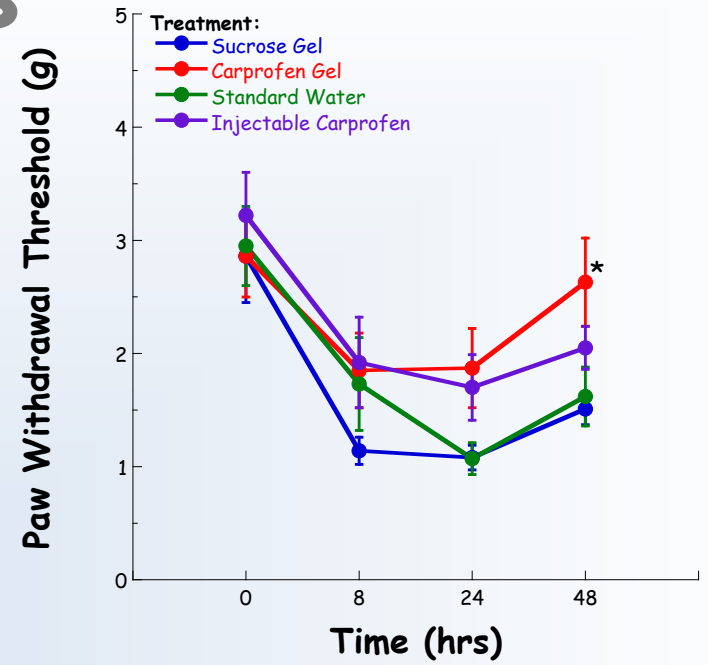
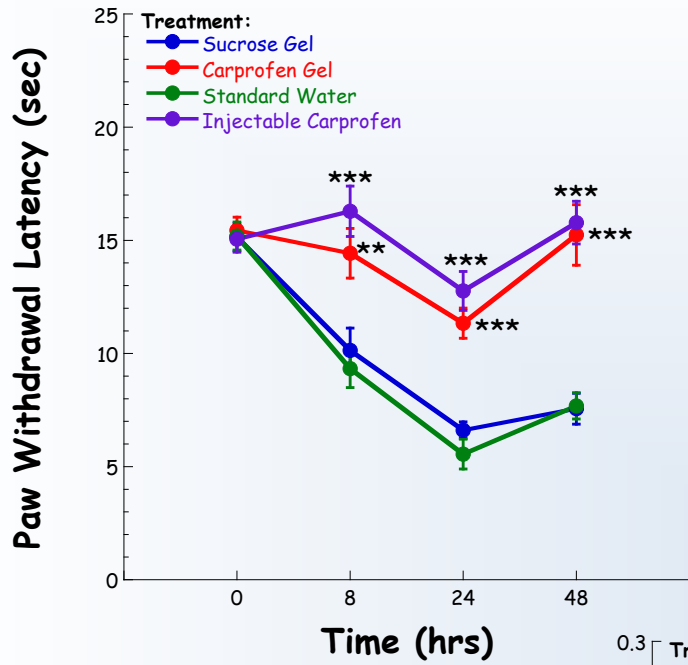
Efficacy Studies of Diet Delivered Analgesics

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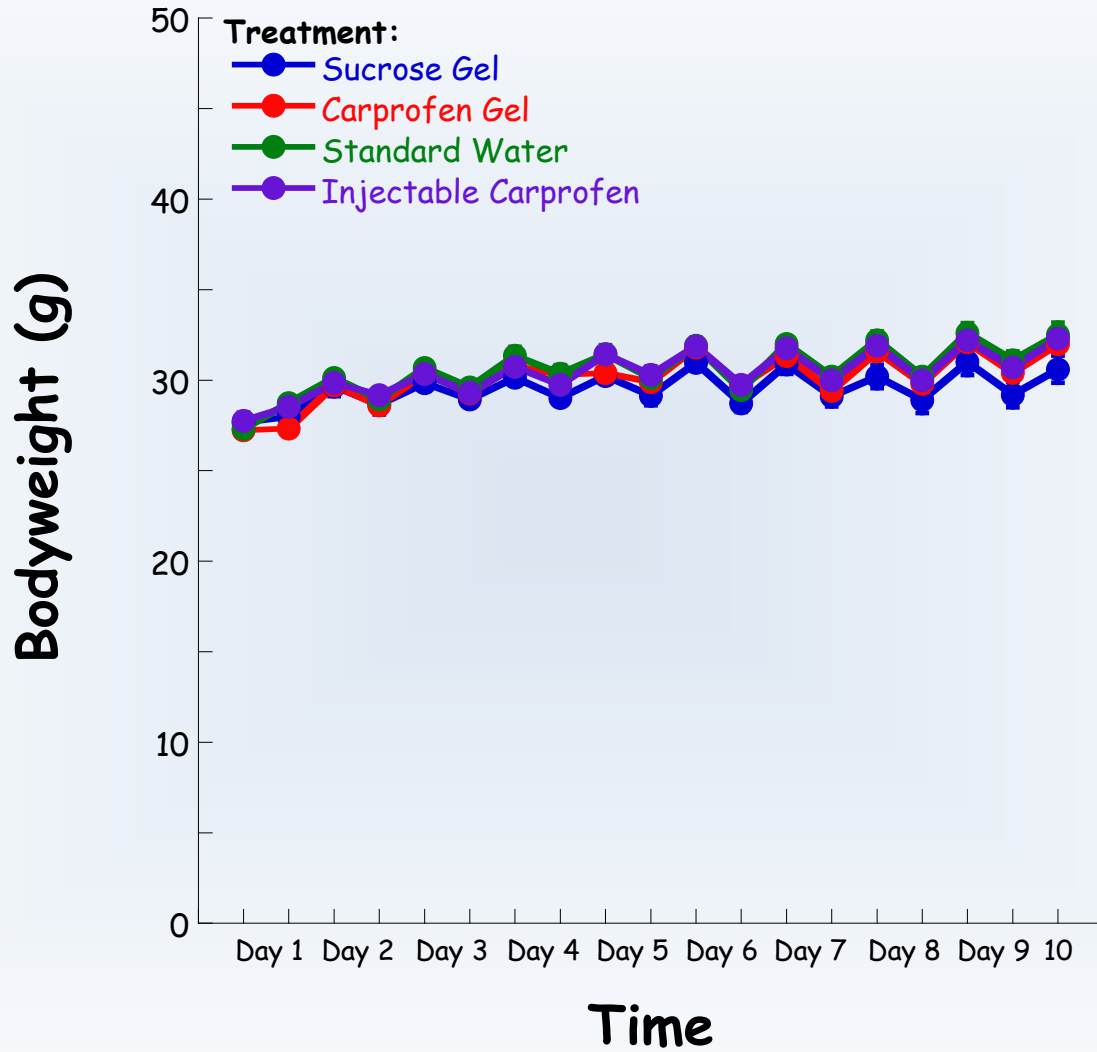
Protocol

- When mice arrived into the animal colony they were immediately marked, weighed and separated into cages of 4 cages of 4 mice each and started either on gels or normal water (days 1-6)
 - Mice, gels, and water bottles were weighed every morning and night
 - Gels were replaced each night
- Treatment groups were assigned randomly from day 1 to determine which cages got gels or standard water bottles
 - Sucrose gel throughout the study
 - Sucrose gel (days 1-6), Carprofen gel @ 10 mg/kg (days 7-10)
 - Standard water throughout the study
 - Standard water (days 1-10), Carprofen (5 mg/kg, s.c., every 12 hrs, days 7-10)
- Day 7 mice were weighed in the morning baselined in the following assays throughout the day and at night drug treatments were given
 - Tactile thresholds (von Frey test)
 - Thermal latencies (Hargreaves's test)
 - Paw Volumes
- Day 8 mice received a 20 μ l i.paw injection of Complete Freund's Adjuvant (CFA) and were tested in the previously mentioned tests at the following timepoints:
 - 8, 24, and 48 hours post CFA injection
- Bodyweights were monitored every morning and night for the duration of the study

Results



Bodyweights



Summary

Thermal Hyperalgesia

- Treatment with either Carprofen (s.c., 2x daily) or formulated in the gel both prevented the development of thermal hyperalgesia that follows the CFA injection

Tactile Allodynia

- Treatment with either Carprofen (s.c., 2x daily) or formulated in the gel both showed minimal reversal of the tactile allodynia associated with the CFA injection

Paw Volume

- Treatment with either Carprofen (s.c., 2x daily) or formulated in the gel both helped to prevent and slowed the development of edema associated with the CFA injection

Bodyweight

- All groups gained weight across the experiments and the Carprofen treatment, as well as was the gels as a water replacement were well tolerated as assessed by gross behavioral observations

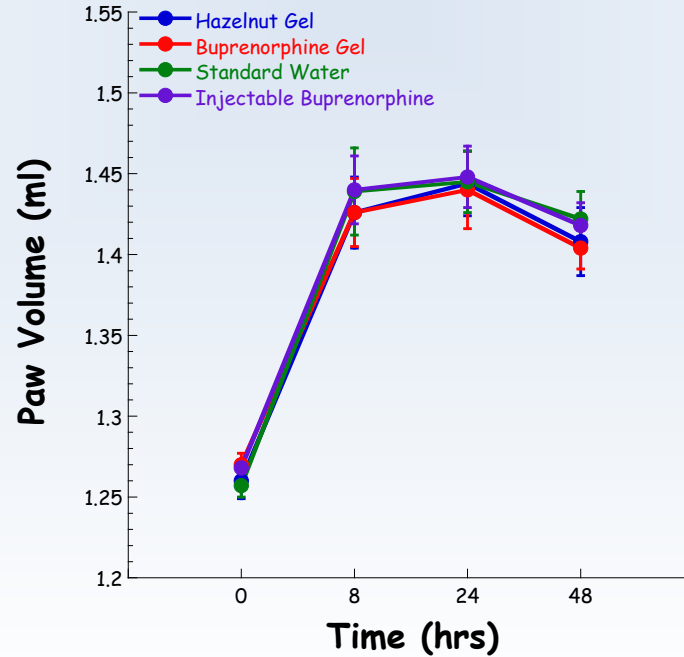
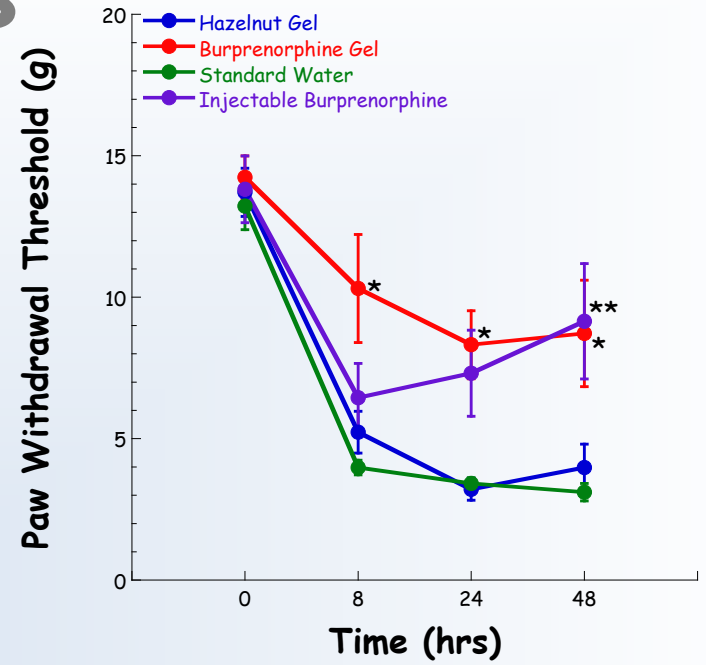
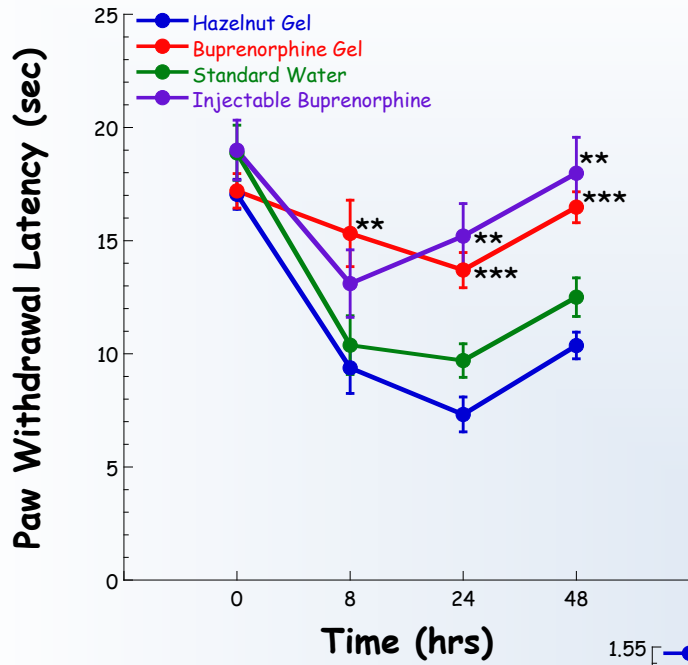
Statistical Analysis

- A two-way ANOVA was used to assess statistical significance
 - *, ** and *** denotes $p < 0.05$, $p < 0.01$ and $p < 0.001$ respectively
 - A Bonferroni posttest was used to compare all groups to their respective controls

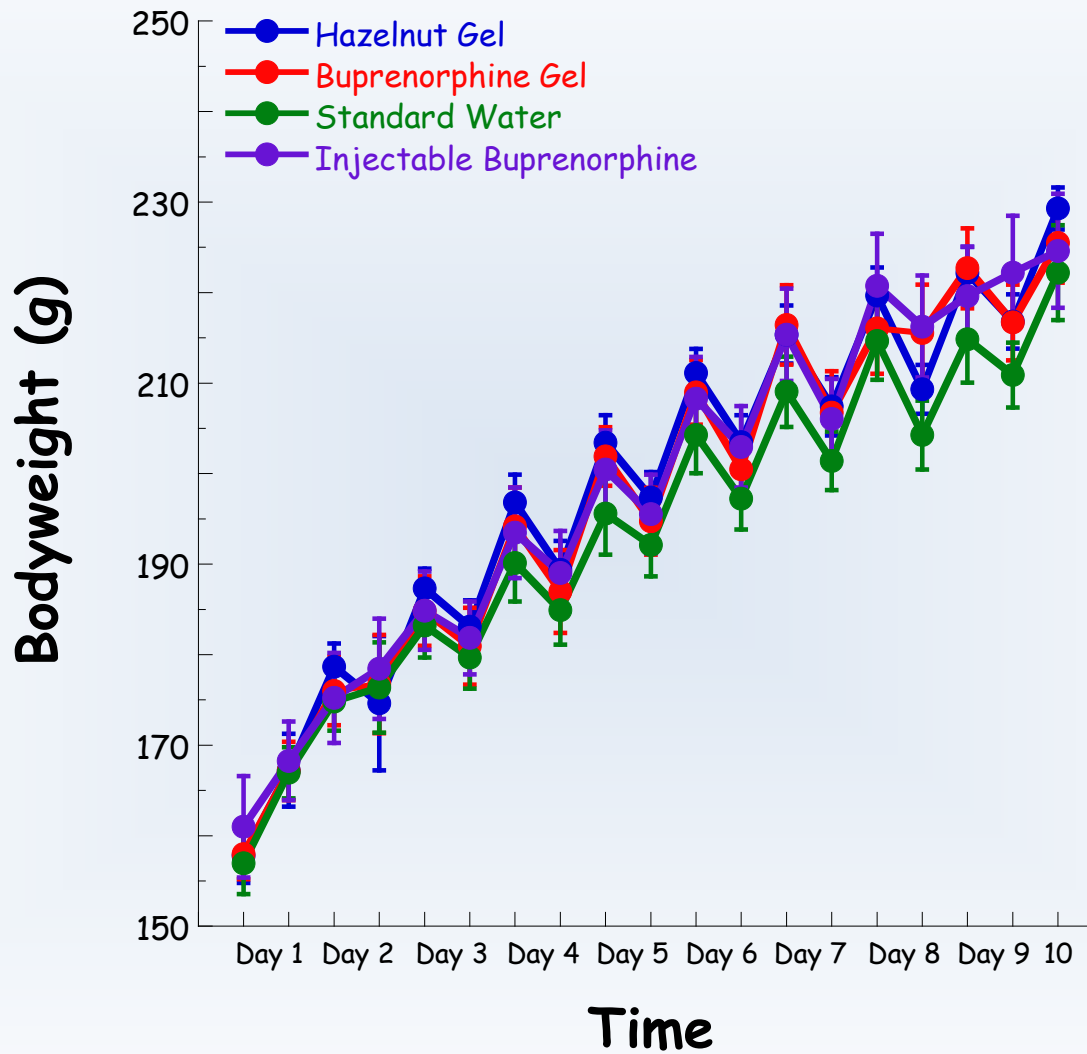
Protocol

- When rats arrived into the animal colony they were immediately marked, weighed and individually housed in separate cages and started either on hazelnut gels or normal water (days 1-6)
 - Rats, gels, and water bottles were weighed every morning and night
 - Gels were replaced only once they were more than half empty or when they had become too dried out
- Treatment groups were assigned randomly from day 1 to determine which cages got gels or standard water bottles
 - Hazelnut gel throughout the study
 - Hazelnut gel (days 1-6), Buprenorphine gel @ 21.78 mg/gel (days 7-10)
 - Standard water throughout the study
 - Standard water (days 1-10), Buprenorphine (0.05 mg/kg, s.c., every 12 hrs, days 7-10)
- Day 7 rats were weighed in the morning baselined in the following assays throughout the day and at night drug treatments were given
 - Tactile thresholds (von Frey test)
 - Thermal latencies (Hargreaves's test)
 - Paw Volumes
- Day 8 rats underwent plantar incision surgery where the plantaris muscle of the left hind paw was incised. The wound was sutured closed and rats were allowed to recover in their home cages. Rats were tested at the following time points post surgery:
 - 8, 24, and 48 hours post CFA injection
- Bodyweights were monitored every morning and night for the duration of the study

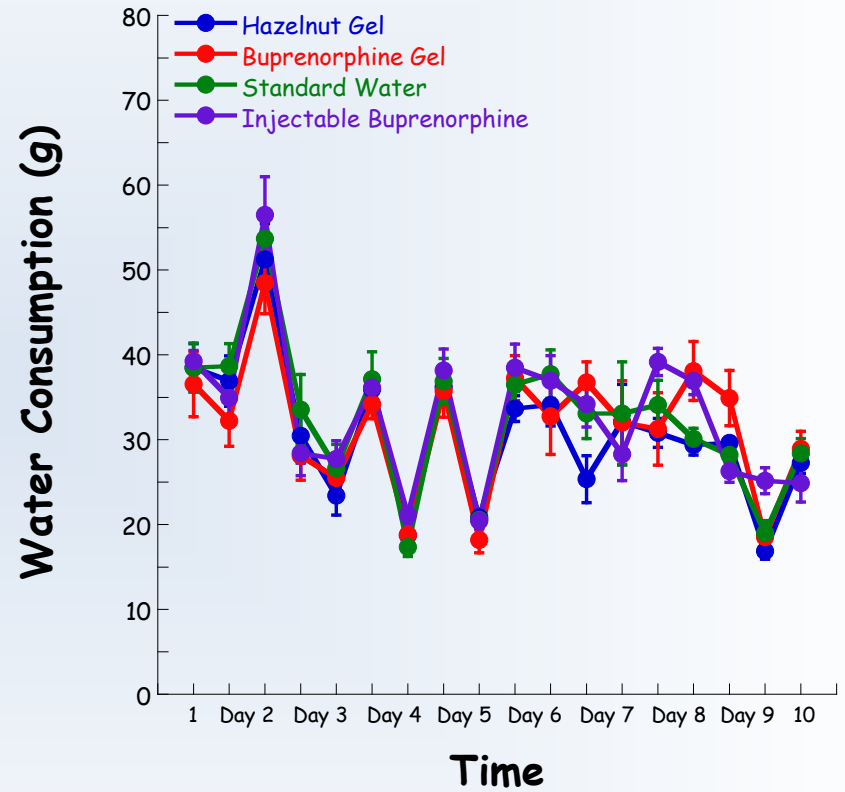
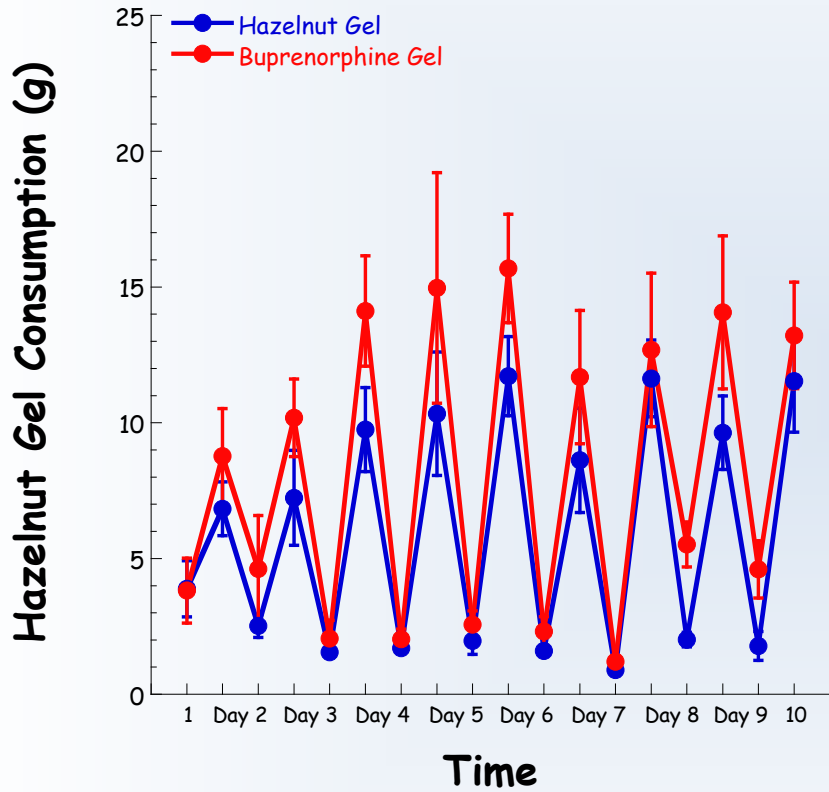
Results



Bodyweights



Consumption



Summary

Thermal Hyperalgesia

- Treatment with either Buprenorphine (s.c., 2x daily) or formulated in the hazelnut gel both prevented the development of thermal hyperalgesia that follows the plantar incision surgery

Tactile Allodynia

- Treatment with Buprenorphine (s.c., 2x daily) showed a trend in reversal of the tactile allodynia at 12 and 24 hrs post surgery and showed that it was significantly different from its standard water control at 48 hrs post surgery
- Treatment with Buprenorphine formulated in the hazelnut gel significantly reversed the amount of tactile allodynia that is associated with the plantar incision surgery at all time points

Paw Volume

- Treatment with either Buprenorphine (s.c., 2x daily) or formulated in the hazelnut gel showed no effect on paw volume levels after surgery

Bodyweight

- All groups gained weight across the experiments and the Buprenorphine treatment, as well as was the hazelnut gels were well tolerated as assessed by gross behavioral observations

Statistical Analysis

- A two-way ANOVA was used to assess statistical significance
 - *, ** and *** denotes $p < 0.05$, $p < 0.01$ and $p < 0.001$ respectively
 - A Bonferroni posttest was used to compare all groups to their respective controls