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Pain and weight gain in rats

Measurement of postoperative weight change in adult or growing animals is potentially an objective, efficient means of evaluating surgery-related pain. To investigate the efficacy of this evaluation method, Brennan *et al*. measured growth rates in young male rats that underwent thoracotomy and were treated postoperatively with either buprenorphine or meloxicam analgesia. To distinguish between the individual effects of anesthesia, analgesics and surgery, the authors included multiple control groups in the study. Notably, treatment with buprenorphine alone significantly affected rats' body weights, whereas treatment with meloxicam maintained rats' growth rates at near normal levels, even after an invasive surgical procedure.

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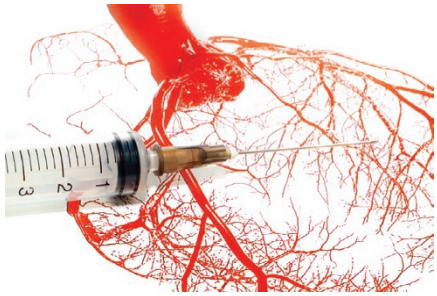
Refinement of cardiac injection



Maria Gritcai

Sato *et al*. describe in detail two standard techniques that they used to carry out cardiac gene and cell transfer in rats: direct intromyocardial injection and antegrade intracoronary injection. Over the course of 3 years, while carrying out these procedures in almost 400 rats, the authors refined the techniques and substantially reduced rat mortality. Refinements included a rigorous fluid replacement regimen, use of inhalational anesthesia instead of injectable agents, exposure of the heart without direct contact and use of a chest drainage cannula to remove air from the pleural cavity.

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