

REFINEMENT STRATEGIES FOR ANIMAL EXPERIMENT

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Refinement

- Reduce or eliminate harm or damage to sensitive beings
- Optimize well being
- Refinement is a complex concept. The aim of this presentation is to pinpoint some targets that commonly have potential for refinement.

Refinement strategies for Surgery

- Consider Non-Survival surgery
- Preemptive analgesia
- Post-surgical analgesia
- Aseptic techniques
- Least invasive techniques
- Least traumatic needles and sutures
- Skilled experienced personnell
- Avoid bleedings

Refinement strategies for Anaesthesia

- Minimize handling and restrain unless the animal is especially trained for this
- Minimize induction and recovery time
- Use an approach that easy to adjust anesthesia dept
- Monitor and support vital physiological functions
 - (Tempertaure, breathing and O₂-uptake, Circulation)
- Keep monitoring the animal until it is completely recovered and waked up after anesthesia
- Allow annimal to recover and take up normal activities between repated anesthesia

Refinement strategies - injections

- Use subcutaneous route whenever possible
- Use solutions with physiologicla properties
 - Salinity, pH, temperature
- Use pyrogenfree solutions intended and produced for injection in live animals or humans
 - Avoid injection soultions mixed on the lab bench
 - If neccesary, use a pharma equipped with neccesary competence and facilities to prepare solutions for injections