Post-Operative Nursing

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Post-operative care is a major part of an overall treatment plan for surgical patients. Veterinarians and nurses should consider overall patient management and have a plan in mind for pre-operative preparation, intra-operative anaesthesia and support, and post-operative care. Careful monitoring is also needed to detect unanticipated complications before they become life-threatening.

A good plan involves careful pre-operative evaluation, discussion of the anaesthetic and analgesia plan, the surgery involved, and the possible problems and complications. This is part of a team approach and the nurse’s work is critical to this.

During sedation and anaesthesia most patients will lose body heat, but this will be greater in smaller animals. Warming should commence in small patients when pre-medication is given. Heat loss is normal during anaesthesia but is worse when major body cavities are opened. The surgery table should be insulated and ideally have a warming device. Warm saline lavage of body cavities can be helpful.

An analgesic plan is part of the overall plan. Pain relief is best given before surgery, ie pre-emptively to prevent wind up of pain pathways. During anaesthetic opiates can decrease the need for inhalation agents and even out fluctuations.

Local anaesthetic use may be applicable in some cases.

After anaesthetic recovery opiates should be continued as needed. Major cases will usually need a regular injection or a constant rate infusion (CRI). We routinely use a methadone CRI made up to 1 mg/ml and run it in at 1ml/10 kg/hr. This is then adjusted up or down depending on the patient’s response. In more critical cases fentanyl is a better option as it has less metabolic effects, for instance on blood pressure, and greater pain relief.

Warming after recovery is usually necessary and best provided with a warm air blanket such as a Bair Hugger. Electric heat mats should be used with caution in non-responsive patients as they can cause severe burns. Be careful not to overheat the patient, especially brachycephalics as this will increase respiratory stress.

Fluid therapy is also an important planning consideration. For healthy patients undergoing orthopaedic procedures for instance, fluids should be given to replace the expected losses associated with anaesthesia. Our routine dosage is 10ml/kg/hr during anaesthesia, then back to maintenance levels post-operatively.

Fluid therapy in sick animals needs to be adjusted to their needs. Ideally dehydrated animals, such as a vomiting dog with an intestinal foreign body should be rehydrated as
much as possible prior to surgery. Repeated evaluation of circulation (HR, BP etc.), and rechecking PCV/TPP and electrolytes etc. should be carried out. Monitoring urine output via an indwelling catheter is also helpful.

Antibiotics may not be needed in many patients having short sterile procedures. For patients undergoing sterile orthopaedic procedures a dose of intravenous antibiotics immediately prior to surgery, during preparation, should be sufficient. As with analgesia, it is good to have it in the blood stream to prevent bacteria becoming established. For many complex surgeries such as intestinal or ear surgery specific antibiotics are indicated and this discussion should be part of the surgical plan.

Monitoring post-operatively is very important. More problems occur during the first few hours after surgery than during the anaesthetic. A small electronic timer is a good device to remind you to check the patient regularly. The level of monitoring is proportional to the severity of the problem, but even a routine spay can bleed internally and vigilance is essential to detect problems.

Depending on the case, you should aim to monitor temperature, HR, RR, and MM colour at least. If indicated it may be appropriate to monitor BP, Pulse-Ox etc. etc. as well.

Supplemental oxygen should be considered in all cases that are very weak or have chest or lung issues. Brachycephalic dogs need careful monitoring of their airway, and remember that nasal oxygen isn’t much help if the animal has an inspiratory obstruction. CPAP (Constant positive airway pressure) is helpful in some of these cases and sometimes just an electric fan can help.

Wounds should be dressed where appropriate and an E-Collar applied immediately in some cases, but when needed in most cases.

Nutritional needs should be planned in debilitated animals or those not expected to eat for several days. Where appropriate a feeding tube should be placed prior to recovery from anaesthetic.

Specific needs of some cases will be discussed.

Blocked cats, Brachycephalics, Bleeding Spleens, GDV, Chest cases.