

Rabbit Nursing: Anaesthesia and Critical Care Mini Series

Session Three: Critical Care- repeat evaluations, trends and nursing care plans

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Rabbit Nursing 3

Learning Objectives

- The attendee will understand how familiar methods of gaining clinical data and monitoring can be applied to our long term patients
- The attendee will understand how to evaluate whether a rabbit patient is improving or deteriorating in terms of various functions.
- The attendee will be confident in constructing appropriate nursing care plans for a variety of rabbit patients.

The Journey from dependence to independence

- Critically ill patients are often almost completely dependent on veterinary intervention for survival
- The question 'Should care continue?' must be answered satisfactorily early on in the process- IE does the means justify the likely end outcome?
- Regular goals and expected outcomes must be set and evaluated in terms of both veterinary and nursing care- the two are completely interlinked
- Knowledge of the patient, the owners and the larger situation will dictate at what point the patient can be discharged from care

The nursing process

- 1) Assessment
- 2) Nursing diagnosis (NOT a veterinary diagnosis)
- 3) Planning of care
- 4) Implementation of care
- 5) Evaluation of outcomes- a DYNAMIC process

NB the whole nursing process is an ever changing one- a patients needs will alter constantly, therefore so will the nursing interventions

Nursing Assessment

- Gaining information about your patient
- This needs to cover your patients whole situation
- Observation
- Clinical data
- History from owners
- Discussion with the rest of the clinical team
- Understanding the importance of knowing what that animals natural requirements are

The Rabbits Natural Requirements

- Access to food and water
- Fibrous diet to grind down teeth
- Ability to move and hide
- Social companionship
- Provision of empathetic treatment for what ails them
- Sound familiar? Five freedoms

Nursing Diagnosis

- Assessment of the care needs of an individual patient
- Prioritisation of these needs
- For example requirement for analgesia, help restoring fluid balance, requirement for supportive nutrition

RVNs are now accountable for their own actions, and the nursing diagnosis is used to implement care for which the RVN is account

Planning Care

- Allows members of the care team to establish realistic outcomes
- To frame a timeline for specific outcomes
- Evaluation of success or otherwise of current interventions
- Goals for each patient may be short, medium or long term, and the criteria for judging success must be defined.

Implementing Care

- Once the plan has been decided and the criteria for success or otherwise defined then care can start to be implemented
- Regular monitoring of the effectiveness of care is crucial
- Interventions should be on time, and carried out promptly in the face of a change in the patient's condition

Evaluation of Care

- Are goals being met?
- If not why not?
- Are additional issues arising?
- If so, what can be done to minimise or avoid these?
- Care evaluation can be continuous, dependent on the response of the patient, intermittent (possibly because assessment is stressful) or summative- at the end of treatment- being a consideration of the success (or not) of the whole nursing process

Roper Logan Tierney Model

- Goal- to provide the best possible care for each individual patient using an holistic approach
- Commonly used in human nursing
- Based on the 12 'Activities of Daily Living'
- An assessment of the patient's expected life-span
- The dependence-independence continuum
- Factors influencing the activities of living
- Individuality in living

Activities of Living- Rabbit style

- Maintaining a safe environment- using a hide area/digging a burrow
- Communication- interaction with conspecifics, particularly a bonded companion
- Breathing
- Eating/drinking- Ability and willingness to engage in these activities
- Defaecating/urinating
- Grooming
- Thermoregulation
- Mobilization- ability to move within the environment
- Working/playing- interaction both for essential and non-essential activities
- Expressing Sexuality- generally modified by prior interventions
- Sleeping
- Dying

The Ability Model

- A specifically veterinary orientated nursing care model
- Combination of RLT and Orem's Self-Care model
- Focuses on what the patient IS able to do at the time of the initial assessment
- Based on the theory that most patients are able to self-care when well
- Can be more difficult to apply this model to exotic species because much less is known about normal behaviour and requirements

Transferable Skills and Technology

- Consider how you are going to get the information you need
- EG Heart rate- stethoscope, Doppler? Use of Pulse oximetry? Real-time ECG?
- Evaluation of respiration- use of Capnography to demonstrate improvement in lung function during treatment
- How are you going to assess pain?
- How are you going to support fluid balance and nutritional status?

Heart Rate

- Trends are more valuable than single assessments
- What is normal for this animal- is this known?
- Direct assessment with stethoscope
- Continuous audible assessment- Doppler

- Continuous ECG
- Alterations with changes in pain, electrolyte balance, blood volume, cardiac capability

Pulse Rate

- Good indicator that each heart beat is effective
- Where the pulse can be felt is a reflection of the blood pressure
- The more peripherally a pulse can be felt- the higher the blood pressure
- Alterations directly reflect heart rate
- NB as soon as the heart rate differs from the pulse rate, then not every heart beat is effective

Respiratory Rate

- Visual assessment of chest excursion
- Depth and character of respiration also important
- Just because the chest is moving does not mean there is effective oxygen exchange going on. Capnography can be used as a measure of effectiveness of ventilation

Gut Motility

- Blood flow is shunted away from gut in situations where blood volume is reduced or there is an adrenaline response to acute pain or stress
- There are multiple other causes of reduced gut motility
- Assess by listening to the gut sounds and monitoring output
- Can occasionally assess visually if animal recumbent
- NB altered gut motility is a potential cause of electrolyte and fluid imbalances

Reflexes

- Assess level of mental awareness and also integrity of the nervous system
- Cranial nerve reflexes
- Peripheral reflexes

Blood Glucose

- Normal blood glucose is approximately 4-8mmol/l
- Elevated blood glucose can be a sign of stress in rabbits (similar to cats) (15-18mmol/l)
- Also very elevated levels (>25mmol/l) can be associated with gut blockage (however not all rabbits with a blockage have elevated glucose and not all rabbits with elevated glucose are blocked)
- Generally monitored as a trend over a period of time in association with other parameters and diagnostic modalities
- Rabbits with a very elevated glucose that are not blocked should settle with appropriate care
- Rabbits suddenly showing a spike in blood glucose should be reassessed

Lactate

- Lactate metabolism in the rabbit is very different compared to other species
- Reference ranges are also wider and this is probably related to caecotroph production
- Single measurements are not helpful for either diagnosis or prognosis
- Serial measurements are better indicators- critically ill rabbits tend to have low plasma lactate levels, and an increase with improvement in other diagnostic factors is a positive marker. This is opposite to other species
- HOWEVER a single high lactate level in an anorexic rabbit with metabolic acidosis may indicate metabolic distress

Assessment of Hydration Status

- Total protein- elevated in dehydration but NB will be depressed if rabbit anorexic
- PCV/Haematocrit- elevated in dehydration but many chronically sick rabbits are anaemic
- Skin tent
- Mucous membrane dryness
- Ocular dryness
- Mucous membrane colour and capillary refill time- indirect measures
- NB must take gut motility into account with this- there may be hidden ongoing losses into the gut

Nursing Care Plans

- Dynamic assessment of what the patient can and cannot achieve
- Based on that animals natural requirements
- Interventions support the normal activities until treatment allows the animal to recover enough to be independent
- Provides ongoing support for the patient and significantly improves patient outcomes
- Crucially provides professional feedback in terms of whether veterinary treatment is achieving its goals and allows intervention if not

Recap- Key Points for nursing rabbits

- Rabbits are prey animals- they hide signs of pain and distress- you have to go hunting for them
- Get good baseline clinical data for each patient
- Have a rabbit friendly approach to your rabbit patients- make them feel comfortable
- Consistent and thorough monitoring is required- understand what changes from the normal mean, and how to correct these
- Owner expectations for rabbits are the same as those for cats and dogs, its up to us to live up to these.