Experience of designing and implementing a care plan in the veterinary environment

Abstract

The adoption of nursing care plans (NCP) within veterinary nursing has provided significant opportunity for movement away from the 'traditional' medical model, towards a more holistic approach of nursing. NCPs provide guidance for veterinary nurses to implement nursing theory and the nursing process. Current literature regarding NCPs within the veterinary environment provides evidence for their positive effect on animal care. However, published material on this subject is limited within the veterinary workplace. Unfortunately the lack of appreciation for the benefits of using NCPs within the human nursing field continues to influence the general opinion towards the use of these documents in the veterinary field.

The NCP discussed in this article was initiated a week after admission of the patient, therefore allowing excellent opportunity for comparison of the nursing interventions and care to be made prior to and following the introduction of the NCP. The views and comments of all the nursing staff involved with this patient and the NCP have also been considered.

Keywords: Care plan, nursing process, profession, holistic, model

Veterinary nursing has progressed immensely over the last half century (Pullen, 2006), gaining increased recognition. In 1991 amendments were made to Schedule 3 of the Veterinary Surgeons Act 1966 which enabled veterinary nurses (VNs) to be recognized by law (Pullen, 2006). The movement away from the previous 'hand-maiden' image is undisputable and VNs of today fulfil a respected role, and veterinary surgeons depend on them for their practical and knowledgeable support in the successful care of animals.

The profession continues to progress forward and follows closely in the footsteps of its human nursing counterparts. It is no longer acceptable to practice along the lines of tradition and justify protocol by 'we have always done it this way' (McSherry et al, 2002: 2). Medical nurses have acknowledged the importance of their role in maintaining an up-to-date evidence base in their profession (Smirnoff et al, 2007). Similarly, VNs are beginning to recognize that best practice needs to be specific to the veterinary field, incorporating expertise, experience, as well as clinical judgement. The veterinary nursing evidence base is currently relatively limited and much information has been transferred from medical research. This is rapidly improving due to advanced training courses, such as the Graduate Diploma in Professional and Clinical Veterinary Nursing offered by the Royal Veterinary College. This course encourages and emphasizes the need for evidence-based practice. The successful initiative for the peer-reviewed veterinary nursing journal *The Veterinary Nurse* provides opportunity for VN research to be shared within the profession.

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The nursing process and nursing models

As well as forming an evidence base of its own, the progression of the veterinary nursing profession has led to the modification of the way in which veterinary nursing is approached, hence the 'nursing process'. This theory broadens the outlook of patient care and encourages VNs to consider all aspects of the patient's wellbeing, rather than focusing solely on the disease or injury of the patient (Pullen, 2006; Chandler et al, 2007).

The nursing process facilitates nursing and provides a framework on which a systematic approach of care can be made for every patient (Chandler et al, 2007; Häyrinena et al, 2010). A variety of interpretations of the nursing process has resulted in the introduction of several different nursing models being successfully introduced in human nursing over the years; for example, Orem's Self Care Deficit Model, Roper-Logan-Tierney Activities of Living Model and Peplau's Shared Experience Model (Pearson et al, 1998). The production of nursing interventions is achieved slightly differently for each model, but ultimately the focus of each encompasses all round patient wellbeing.

The idea that nursing care should take a different approach to medical intervention is not novel, as Jeffery (2006) highlighted with Florence Nightingale's (1859) view that medicine and nursing are separate entities. The nursing models provide the necessary framework for nurses to implement this enhanced approach to nursing care, in the form of a nursing care plan (NCP) (Main, 2011a), and thus move away from the medical approach that unfortunately can be

typically adopted in nursing. So why, since the mid 1970s, has there been increasing discussion regarding the value of nursing models (Wimpenny, 2002)?

In the past NCPs have been viewed negatively by some human nurses, which has subsequently led to their minimal use in practice and little appreciation of their true worth and potential contribution to everyday nursing (Mason, 1999). Recent publications by Lock (2011) and Wager (2011) discussed the benefits that NCPs can bring to the veterinary environment if they are appropriately selected and tailored to suit the practice needs. Therefore, choosing and potentially modifying a care plan could be the key to successful implementation.

Choosing and designing a care plan

The Ability Model by Orpet and Jeffery (2007) is the only veterinary NCP framework to date (Lock, 2011). This model was chosen to form the basis of the care plan created for 'Ludo', an 11-month-old cat hospitalized following a road traffic accident (*Figure 1*). Using Orpet and Jeffery's 'ten abilities' helped to encourage a less medical approach considered by the author to be a more appropriate way to address Ludo's specific nursing issues. The research published by Lock (2011) and Wager (2011) was also considered when selecting the NCP.

The Ability Model was modified and the feature of the dependence–independence continuum addition, from the Roper-Logan-Tierny's Model (RLT) was incorporated. It was thought that highlighting a patient's status of dependence–independence clearly on the initial assessment would enable the specified activities to be clearly brought to the veterinary nursing team's attention at a glance. It is imperative that the document is adapted to suit those who set out to use it for the benefits to be most effective and compliance to be maintained (Mason, 1999; Wimpenny, 2002). Equally, Orpet and Jeffery have recognized this and encouraged the modification of the Ability Model (Orpet and Jeffery, 2007) to improve workability within the practice environment.

In accordance with the nursing theory, a nursing assessment was carried out on the morning the NCP was produced, which was 6 days after Ludo had been admitted (*Figure 2*). A nursing assessment collects the information required to produce an accurate NCP (Mason, 1999). As Ludo had been signed over to the practice, it was not possible to ask his owners his usual habits in the form of a 'nursing questionnaire'. Orpet (2011) explained this lack of information is suboptimal because without knowing what is 'normal'

Care plan To be completed once daily or more often if required					
Date	**Problem**	**Short term goal**	**Nursing interventions**	**Review time/date**	**Evaluation**
26/09/11	**Pain:** when moves due to unstable pelvic fractures and neurological pain	Reduce movement	Pain score q 2hr. Minimize stimulation of Ludo to try to move himself and minimize need for ludo to be moved from kennel i.e. exam in kennel when possible. Gentle massage of both hind legs and range of movements in joints 3 x daily while still tender	Assess **Q 2 hrs**. Evaluate effectiveness of pain management daily with vet. Gentle massage **3 x daily**	
	Nutrition: 1.Daily RER not being met – delayed healing, weight loss and muscle wastage	Daily RER (205 kJ) to be met each day to avoid weight loss	2 alutray's of Purina Recovery (energy dense food with good quality protein) to be fed 6 x daily 2 x trays to be fed each day. B/collar removed and supervised when eating	**Q 2–3 hrs** during working hours and **11 pm** at 'before bed check' Evaluate daily.	Specified feeding times improved quantity of food eaten. RER met today, this frequency to continue.
	2. Hydration	Maintain hydration levels	Feed wet food and monitor hydration levels. Offer water in bowl and monitor input. Continue IVFT	Check hydration level **Q 2 hrs** and report to vet if concerned. May need to alter IVFT rate. Check breathing (sounds, rate), pulses etc. for over-hydration aswell	Ludo still not drunk from bowl, hydration maintained by IVFT and wet food. To continue this rate (maintenance), wet food and monitoring Q 2hrs
	Cystostomy tube in place leading to potential problems of: 1. Obstruction by twisting of tubing	Avoid twisting	Untwist asap if twist and ensure flow of urine into collection bag	Check for twisting **Q 1hr** and weigh urine collection bag **Q 2 hrs**. Should increase by approx 10 g/hr.	Urine output met requirements. Weighing bag useful because cystotomy tubing twisted by Ludo on several occasions today.
	2. **Pierce foley catheter** — deflate balloon holding catheter in place	Do not allow foley catheter to be punctured	B/collar to be worn at all times and supervised closely when removed. Avoid movement when b/collar not on because Ludo bites everything when in pain	Check for leaks **Q 2hrs** and after 'painful panic attack' if occurs	Ludo pierced urinary tubing and puncture repair required. Repaired area checked for leaks. Importance to control Ludo's pain/movement emphasized
	3. Local **infection** at site of insertion through abdo wall and/ or UTI	Avoid infection	Once daily bathe local site with dilute Hibi, dry well and treat aseptically. Admin ABs twice daily PO	**Q 24 hrs** Urine cytology to check for infection (active infection with intracellular bacteria) **Q 2–3 days**	Great care taken when bathing insertion site. ABs taken well PO.
	4. Restricted **movement** in kennel because attached to urine collection bag — potential to pull foley catheter out	Urinary collection device not to get caught in kennel door restricting movement/ exerting force	Loosen collection tubing as much as possible without tangling around Ludo	**Q 2 hrs** and each time kennel door closed	Ludo did get tangled so checked more often, at least **Q 1 hr**
	Constipation	Soften stools to enable natural elimination	Admin Laxapet 3 x daily and gently manually remove F with finger if visible in anus	Reassess **Q 24 hrs**	Plan for enema when GA for x-rays tomorrow because minimal F
	Hyperthermia	Resume normothermia	Check temp	Check temp **Q 2 hrs**, liase with vet if normothermia does not resume	Hyperthermia 39.4°C + at end of day. All other parameters normal. Pain management assessed by vet

	Unable to **groom** self	Maintain good coat/skin condition and avoid frustration /depression caused by b/ collar	Remove b/collar at least 6 x daily when fed and whenever possible to spend time with Ludo and he can be supervized not to chew cysto tubing/IVFT tubing. Allow additional time after feeding for him to groom himself. Also groom with brush/comb avoiding hind end where painful	Remove b/collar for feeding **6 x daily** and allow extra time for grooming self. Evaluate daily	W/experience students spent additional time to meal times with Ludo fussing and grooming him. Ludo is used to his b/collar, but enjoys having time without it when he grooms his whole body. Purr+++
	Unable to **mobilize**	Limited movement to allow for #sites to heal and avoid pain.	Strict cage rest. Ensure Ludo's bedding is clean and very soft. Only very gentle movements to avoid him trying to move himself which is painful. Examinations to be carried out in kennel when possible and at least 2 people to lift/move him and fluid bags to ensure fully supported	Check for visible swelling/ inflammation at femoral and pelvic fracture sites **Q 2 hrs.** Vet to examine Ludo **Q 24 hrs** including assessment of #sites	No sign of inflammation at #sites. Vet exam of #s included gentle palpation — concern if pin too long and causing pain. Plan to GA radiograph #femur and pelvis (enema at same time)

Figure 1. The care plan created for 'Ludo', an eleven-month-old cat, hospitalized following a road traffic accident.

for Ludo, it becomes more difficult to ascertain what the normal nursing should be. Therefore to avoid unnecessary stress caused by a lack of information, the nursing assessment is best achieved at the time of admission, with the aid of a nursing questionnaire to guide an interview of the owner (Orpet, 2011). In the absence of knowledge regarding Ludo's typical habits, generalized 'good health' inevitably became the underlying theme for the long-term goals.

Analysis of implementing a care plan

In summary, the NCP allowed for Ludo's care to be individualized and summarized in one document and

received positive feedback from the veterinary nursing team involved in Ludo's care. However, thematic analysis of the opinions of all veterinary nursing team members following the incorporation of the NCP has highlighted four dominant topics of discussion.

Length of time taken to complete paper work

Ludo's NCP was a lengthy and detailed document, which was beneficial when considering the importance of it being a document accessible and understandable to the veterinary nursing team of all levels of qualification and experience (Lock, 2011). However, a lengthy document is not only time consuming to produce, but it is also time consuming to read and could be seen as quite an intimidating document to unfamiliar readers. A patient with a clinical status as complex as Ludo's will inevitably require greater documentation, but there is potential for this to be minimized.

The length of time taken to complete NCP documents is a frequent criticism, and one that most typically appears to be disproportionate to the added value the NCP actually provides (Wager, 2011). Wager (2011) explains that the excessive documentation could be due to a lack of adaptation made to the care plan to enable it to complement the existing paper work in the practice, and merely limited time spent actually nursing the patient. In the case of Ludo's NCP, it was thought that time taken was extended due to unfamiliarity of the NCP process. This is a factor that could certainly be improved with experience.

The length of time taken to complete the NCP links closely with the next theme: 'appropriate terminology'. There is potential for a precise language and even appropriate abbreviations to be employed within the NCP. This would have the desired effect of reducing the quantity of documentation, as well as decreasing actual time spent writing information onto the NCP.

Appropriate terminology

It was felt that a significant amount of time was spent detailing Ludo's NCP in order to convey an accurate interpretation for all colleagues involved with Ludo's care. On reflection, this time could have been reduced if standardized terminology was familiar to all VNs involved with NCPs. The use and understanding of such terminologies is imperative in achieving gold standard care for patients (Frauenfelder et al, 2011). The North American Nursing Association-International (NANDA-I) produced nursing diagnosis classifications in human nursing in the early 1970s and provides an example of precise and standardized nursing terminology which is used to form the basis of identifying and selecting nursing interventions (Carpentio, 1993).

There is significant importance for a thorough understanding of a standardization of nursing terminology used within care plans. Griffiths (1998) conducted a study which clearly emphasizes the need for standardization of terminology and for nurses to grasp a full understanding and be able to correctly use the NANDA-I nursing diagnosis classification system. Frauenfelder et al (2011) highlights the importance of the completeness of a standardized medical nursing language, therefore if this system is to be effectively utilized within the veterinary field, diagnosis terminology specific to veterinary patients would need to be devised.

Standardizing specific terminology throughout nursing theory, particularly care plans, could positively result in a reduction in time spent completing the NCP. It could also reduce the time taken to interpret them by other nurses, as Häyrinena et al (2010) found in a hospital environment, where electronic nursing documentation was used.

Standardization of terminology improves communication and understanding among nurses and therefore ultimately improves patient care (Kumar, 2007). Compliance may also improve if VNs felt they had a better understanding of how to effectively use the NCPs, with accurate terminology, as Kumar (2007) demonstrates with NANDA-I, Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC).

Empowering the veterinary nursing team

The production of the NCP provided excellent opportunity for the VN in charge to form in-depth discussions regarding Ludo's nursing care and required nursing interventions, thus empowering the nurse with responsibility for Ludo (Main, 2011b). However, the other members of the veterinary nursing team subsequently felt isolated from the 'planning' and 'evaluation' phase of the nursing process. This situation was absolutely unintended and controversially Main (2011a) and Kumar (2007) explaines how nursing theory should actually improve communication among nurses, particularly through evaluation of patients at times of handover. It can only be assumed that should the veterinary nursing team have been equipped with a greater knowledge of NCPs, then they would have felt more confident in initiating, as well as adjusting and updating, the one produced for Ludo.

It is hoped that the enthusiasm for VNs to contribute to all aspects of the nursing process would improve as NCPs are used more frequently within the practice and the formulation becomes more familiar. The aim of NCPs is to bring together nurs-

Figure 2. Nursing assessment.

Clinical reason for admission: RTA. Admitted 6 days ago. Multiple # pelvis not stabilized, femoral # stabilized with intramedullary pin and cerclarge wires. Spinal cord stretched/ severed over coccygeal region — no anal tone or use of tail, bladder intact, but unable to urinate — amputated tail and cystotomy tube fitted under same GA as femoral pin placed.	
Owner's perception of problem: Handed in to the vets — signed over because O has no money	
Animal name: Ludo	**Client name:** 'The Vets'
Species: Feline	**Address:**
Breed: British Short Hair	
Age: 11 months	
Sex: (entire/neutered?) NM	
Samples brought in/required (e.g. urine, faeces) Blood sample taken to check electrolytes (on IVFT)	**Tel:**
	Mob:
Weight: 4.35 kg	**T (˚C)** 39.3
BCS (1-10): 4	**P** 140
CRT/mm: 1 sec, pink, dry-moist	**R** 20
Demeanour: Relaxed, alert and responsive.	
Life Stage Neonate Adult Geriatric	

Summary of patients abilities at present

	Current routine	Actual problem	Potential problem	Long-term goal
1. Eat adequate amounts Dependent	Eating small amounts	RER (391kj) not met. Ludo will only eat when b/collar removed. 4.45 kg to 4 kg	Weight loss, delayed healing, muscle wastage	Ensure RER met each day and avoid weight loss
2. Drink adequate amounts Dependent	Not drinking water	On IVFT, Ludo irritated by IV catheter/giving set	Dehydration and Ludo biting/ piercing giving set	Prevent dehydration and Ludo to hydrate himself independently
3. Urinate normally Dependent	Cystotomy tube in place	Ludo irritated by cystotomy tube connection	Ludo biting/piercing cystotomy tube — leakage, risk of UTI, or piercing of foley catheter – deflating the anchoring balloon. Twisting/ obstruction of cystotomy tube – stretching of bladder. Restricted movement in kennel due to attachment to urinary collection bag	Avoid associated complications e.g. UTI, local infection etc. Cystotomy tube to stay in position for length required, i.e. avoid repeat GA to replace. Ludo to urinate indepently via urethra
4. Defecate normally Dependent	Minimal F passed	Reduced defecation due to absent nerve function	Stools become too firm/large to pass through #pelvic canal	Independent regular, pain free defecation of soft stools
5. Breath normally Independent	Respiration rate normal	None	Increased respiration rate due to pain/stress	Avoid pain/stress and maintain normal respiration rate
6. Maintain body temp	Constant high temp	Hyperthermia due to ?pain	Contribute to dehydration	Resume and maintain normothermia
7. Groom self Dependent	Unable to groom self	B/collar on at all times unless supervized and this is usually feeding time	Poor coat/skin condition. Itchy and depression	Remove b/collar to enable self-grooming. Maintain skin/coat condition while collar in place
8. Mobilise adequately Dependent	Unable to mobilize	#femur, #pelvis	Muscle wastage, poor circulation from lack of movement, pressure sores	Minimal muscle wastage, maintain good circulation while recumbent
9. Sleep/rest Independent	When finds comfortable position Ludo rests peacefully	Painful to move to comfortable position	Thrashing out when painful may twist cystotomy tube and he may rest in this position obstructing the flow of urine	Control pain, avoid obstruction of cystotomy tube. Ludo to rest adequate amount of time
10. Express normal behaviour Independent	Very affectionate. Loves human contact/fuss	Human stimulation encourages him to move which is painful+++ due to #pelvis	Prolong healing time of #pelvis due to movement, but Ludo becomes depressed if no contact	Control pain and avoid depression

Additional influencing factors, e.g. financial, cultural. Ludo has been signed over to The Vets so financial aspect of treatment important. No guarantee of how far Ludo's recovery will progress, e.g. may not regain nervous function of bladder. 24 / 7 nursing treatment required to be shared between nursing and veterinary staff to avoid transferring to OOH practice each night and weekend.

ing ideas, particularly when the nursing interventions are not having the desired effect and the care given needs to be adjusted (Main, 2011a). Ludo's condition was not rapidly changing, however a lack of input regarding the nursing interventions could have proved problematic should this have been a severely ill patient with fluctuating nursing needs (Main, 2011a).

Increased recognition of patient needs

Ludo's NCP enabled thorough consideration to be taken of all of his nursing needs and the required interventions to be documented. This became particularly valuable at handover and Ludo's daily progress could be easily summarized and discussed. Orpet (2011) suggests the nursing process does often naturally occur within practice. However, a lack of this documentation often results in an unknowing deviation away from the systematic pathway of care that a NCP would otherwise provide. Unfortunately, this is often to the detriment to the patient. It is evident that there were areas of care that were considered and evaluated only once the NCP was in place. For example, the amount of Ludo's daily mental stimulation was quantified and recorded, ensuring that this was not forgotten.

Comparisons of nursing care and interventions pre and post NCP

There was a noticeable improvement in the holistic approach to Ludo's nursing care following the introduction of the NCP, tailored to his individual needs. For example, Ludo's inability to groom himself was more appropriately addressed with scheduled periods of time where his collar was removed under supervision. Ludo's recommended energy requirements (RER) were also not previously being met, but the precise planning and recording protocol of the NCP enabled this to be accounted for. Planned time for gentle massage through the day also ensured that this was not missed out of Ludo's routine simply through VNs assuming another VN had carried out this task already. The NCP spread the nursing efforts for Ludo evenly throughout the day and avoided previous 'bunching' of nursing to particular parts of the day.

This positive outcome contradicts previous studies that have shown there to be no noticeable difference between care provided to patients with or without the intervention of care plans. For example Griffiths (1998) concludes that the use of nursing models had insignificant impact on the care provided to the patients.

Although other veterinary nursing team members did not feel empowered to be involved with the production or evaluation of Ludo's NCP, they followed the veterinary nursing interventions precisely and recorded a variety of topics on his hospitalization sheet that were not previously mentioned, and therefore possibly not previously considered. Reflective discussion regarding the care for Ludo revealed to the author that the VNs felt overall more satisfied with the care they were providing to Ludo as a result of the NCP, and therefore their role as a VN.

Wider considerations for the veterinary profession

Wimpenny (2002) discussed the importance of adequately educating a clear purpose and instruction of nursing models and how they are linked to nursing theory. It is apparent that the distinct lack of educational training in nursing theory has led to suboptimal understanding, and therefore use, within a practical nursing environment (Timmins and O'Shea, 2004). Education should therefore be at the forefront of driving the nursing theory forward because it has been shown to empower nurses to actively use nursing theory to the advantage of themselves and their patients (Timmins and O'Shea, 2004).

Poor use of, for example, NCPs is not related to an inferior performance of nursing staff, but inadequate integration of the document into daily routine, makes its full level of usefulness unrealistic and therefore unattainable (Mason, 1999). Therefore, it is paramount that nursing theory remains a feature throughout the range of veterinary nursing education programmes, for example in the Veterinary Nursing Degree, Graduate Diploma Professional and Clinical Veterinary Nursing and the Veterinary Nursing Diploma.

In addition to educational syllabuses including nursing theory, training should be taken one step further to include the standardized terminology for the nursing process and care plans. This has the potential to decrease the time taken to complete and interpret these documents (Häyrinena et al, 2010) and therefore remove one of the major negativities associated with them.

Recommendations for further research

First, previous studies have recognized that the 'theory–practice' gap remains apparent among nurses with regards to nursing theory and nursing models (Tierney, 1998; Wimpenny, 2002). Considering the importance of VNs being competent in carrying out nursing theory in day to day practice and its link to improved patient care and continuity, it would be in-

Key Points

- Nursing care plans (NCPs) enable movement away from the medical model to a more holistic approach to veterinary care.
- Standardization of nursing terminology used within NCPs could reduce time spent producing and reading the paper work.
- NCPs enable the specific needs of the patient to be recognized and recorded, some of which might be unintentionally overlooked.
- Education of nursing theory is paramount to the success of NCPs within practice.
- NCPs spread care evenly throughout the day, avoiding 'bunching' of treatment in to a few parts of the day.

teresting to investigate whether the theory–practice gap is apparent among VNs, especially with nursing theory now being recognized within diploma and degree syllabuses.

Second, it would be interesting to continue to monitor the time element associated with completing a NCP, especially as it is so frequently mentioned as the main negativity of NCPs. It is possible that this factor could be overcome following an increase in the use of NCPs in practice, and therefore experience of using them. First opinion practices are less likely to encounter the same frequency of complex, long stay patients as a busy referral hospital, and therefore may experience less need for extensive NCPs. Main (2011a) suggested generic care plans for 'routine' procedures, for example neutering, which if widely incorporated into day to day work could be a positive way to increase exposure to the documents in first opinion practices. It would be interesting to monitor whether increased exposure and use does reduce time required to consider the nursing process and complete the required paperwork.

An NCP of similar format to Ludo's has been utilized successfully on several patients that have been hospitalized at the author's practice. The nursing team collectively view the NCP to be the most effective way to comprehensively address all of the needs of their longer stay patients and they now form a pivotal point of the nursing care in the practice.

Conclusion

It is apparent that the selection and adaption of NCPs is fundamental to their successful implementation within a veterinary environment. By comparing the nursing care recorded on hospitalization sheets prior to and following the introduction of an NCP, it is clear that a more holistic approach is made. Ludo's NCP has demonstrated the great potential for care plans to enhance the experience and treatment of hospitalized patients.

The time taken to complete paper work remains a significant factor, however standardizing terminology and improving familiarity of the nursing theory and associated paperwork may improve this. Increasing familiarity of NCPs among all nursing staff may also result in a greater willingness for them to contribute to all stages of the nursing process.

NCPs provide a realistic pathway to enable veterinary care to move away from the medical model, towards a more holistic approach. This experience of implementing a care plan has shown that a more rounded approach to care is not only more beneficial to the patient, but provides improved job satisfaction for theVNs too. **VN**

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