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Clinical Procedures in Small Animal Veterinary Practice

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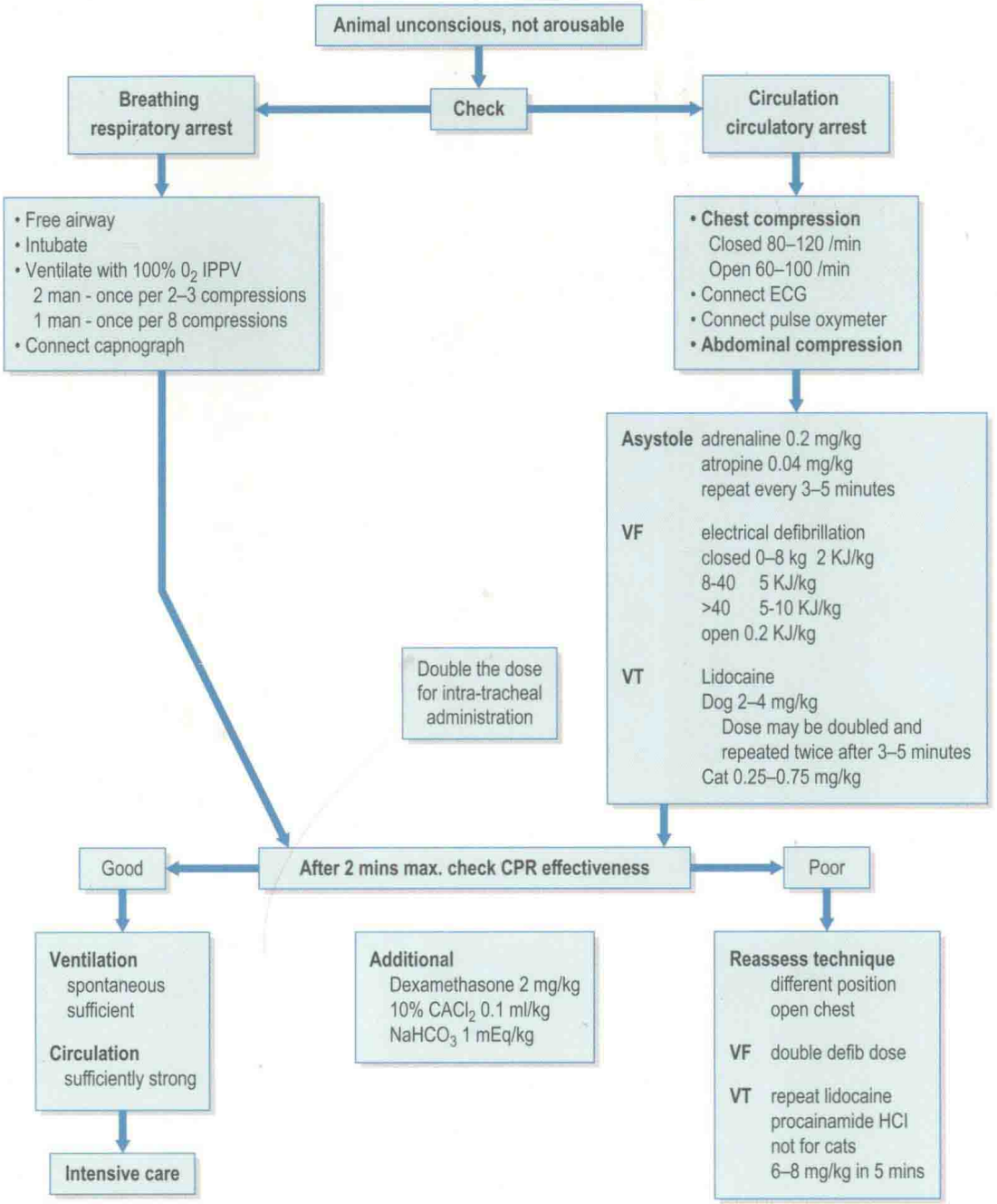

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Clinical Procedures in Small Animal Veterinary Practice

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Preface

The inspiration for this book came from three sources: our memories of what it was like to be thrown in at the 'deep end' of veterinary practice, the employment over the years of several new graduates, and the introduction by the Royal College of Veterinary Surgeons (RCVS) of the Professional Development Phase (PDP) listing the 'Day One Skills' required by the new veterinary graduate. We have used this list as a basis for the clinical procedures covered within the book.

When you sit down to write a step-by-step guide to a procedure you are faced with an immediate dilemma: do you describe several methods as detailed in a wide variety of texts, or do you describe how we do it in our practice? In the majority of cases we have covered the most common method(s) in current use and / or taught at university, but have added in the occasional short cut or useful tip, and of course we have also referred to the accepted authorities on the subject. We have also used veterinary nursing textbooks because, aside from the obvious surgical procedures, veterinary nurses need a not dissimilar range of skills.

It is almost easier to say what this book does not do than what it does do. The book is not designed to cover every single type of procedure that can be performed on a body system or organ, nor does it discuss the constantly evolving new surgical techniques for the treatment of such areas as the stifle joint or the ear. Advancing knowledge in these areas is the responsibility of referral practices, specific training courses, conferences or the veterinary literature. What the book does aim to do is to describe the fundamental techniques that we would expect a new graduate to be able to do within a reasonable timescale. By the end of the first year in veterinary practice, we would hope that he / she would have become proficient in the subject, and prepared for encountering the conditions in practice. Some conditions, such as gastric dilatation and volvulus, are mercifully rare and competency in dealing with them may not happen for several years.

We hope that this book will be useful to both veterinary students in the clinical years of their training and to veterinary graduates in their first 2–3 years of practice. As well as a wide range of everyday clinical skills, it covers some aspects such as basic animal handling that may have been taught in the very first year of a university course and some more theoretical subjects such as parasitology and laboratory work that are taught later in the course, but the details tend to be forgotten once the relevant exams have been passed. We hope that this will become a useful reference book for everybody working in small animal practice and one that can be consulted when you are too frightened to ask a more senior member of the profession!

Victoria and Richard Aspinall
2013

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Finally I would like to thank the team at Elsevier, notably Robert Edwards and Veronika Watkins and the focus groups assembled by Elsevier, who showed great enthusiasm for the original idea of the book. I hope it lives up to their expectations.

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Restraint, handling and administration of medication

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Correct handling and restraint of the patient are essential if you are to perform any procedure effectively. If the animal is allowed to move it may hurt itself or you. An animal that is held firmly will feel much more secure and will be less inclined to struggle or to make an escape.

The majority of animals that are brought into the surgery are used to being handled, but this does not mean that they necessarily enjoy having things done to them, especially by a 'strange-smelling stranger'. There will also be a small proportion of animals that are wary of human contact and this includes stray dogs and feral cats. These animals may be unpredictable and potentially dangerous and you must protect your own safety and that of anyone around you.

When handling any species you must approach quietly and confidently; you must know exactly what you are going to do and get it right the first time – the more often you have to attempt a procedure the more frightened or aggressive an animal becomes and the more likely you or the animal are to get hurt. Animals become very upset by clumsy inept handling, but respond positively to someone with a calm, confident demeanour.

So, at the very least, before you start anything:

1. Know how to do the procedure correctly – this will give you confidence and affect your attitude to the animal.
2. Have all your equipment prepared and ready to hand – this may include restraint equipment such as dog catchers or cat bags.
3. Organize assistance if you think you are likely to need it – having a 'go', failing and then deciding you need help causes delay, upsets the patient and may upset the watching client.

Procedure: Muzzling a dog (Fig 1.1)

It will not be necessary to muzzle every canine patient, but it is essential to be able to perform this technique quickly and effectively when you need it. It is rarely necessary, and it is much more difficult, to muzzle cats. If you do need to muzzle a cat there are suitable commercial muzzles available.

1. **Action:** Place the dog in a sitting position on the floor or on a stable examination table covered with a non-slip mat.

   Rationale: *In this position the dog will feel comfortable and will be less likely to wriggle.*
2. **Action:** Ask an assistant to stand astride the dog, or if on a table to stand behind the dog, and grasp the scruff on either side of the head just below the ears.

   Rationale: *The head must be held firmly to prevent it moving around, allowing the muzzle to be tied quickly.*
3. **Action:** Using a length of cotton tape or bandage, you should tie a loop in it.

   Rationale: *Any long strip of material can be used (e.g. a tie or even tights) but the material must be strong enough to hold the jaws together.*
4. **Action:** Approach the dog slowly and deliberately, crouching down to its level if necessary.

   Rationale: *Crouching low prevents fear aggression; standing over the dog may provoke it to jump up and bite.*
5. **Action:** Place the looped tape over the dog's nose and tighten it quickly with the knot over its nose.

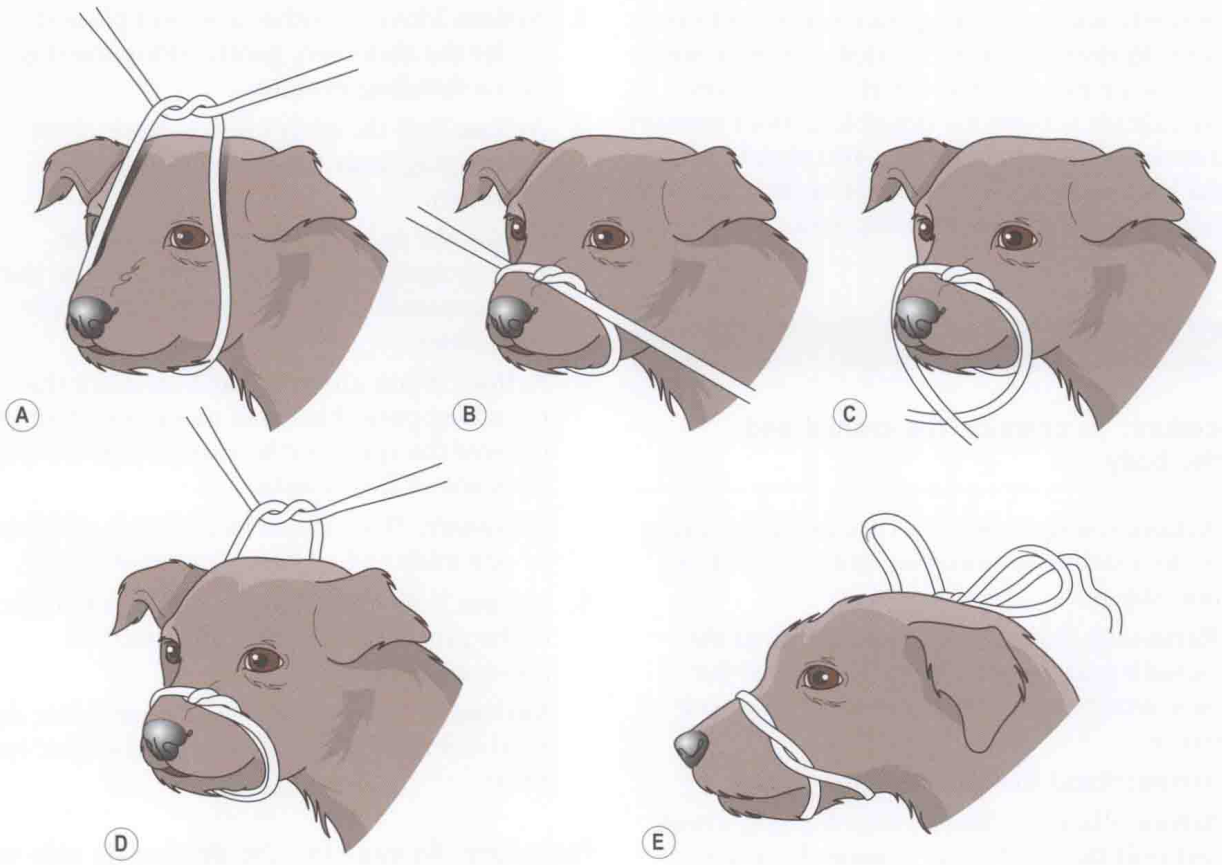

Figure 1.1 Tying a tape muzzle.

Rationale: *Any delay in tightening the loop may give time for the dog to shake its head free.*

6. **Action:** Bring the long ends of the tape downwards and cross over under the chin.

   Rationale: *Further throws around the nose before finally crossing over will strengthen the muzzle.*

7. Take the two ends of the tape backwards and tie them in a bow behind the ears.

   Rationale: *A bow allows a quick release if the dog becomes distressed.*

8. Ask the assistant holding the dog to keep the head pressed down.

   Rationale: *This position prevents the dog from lifting its forefeet to pull the muzzle of its nose.*

9. If the dog is a brachycephalic breed insert another length of tape under the loop on the nose and under the piece at the back of the head.

   Rationale: *This prevents the muzzle from slipping off the short nose. This technique could be used for cats.*

10. Bring the two ends of this piece of tape together and tie them into a bow on the bridge of the nose.

    Rationale: *The dog must be carefully observed as pressure over the nose of a brachycephalic breed could lead to respiratory distress.*

NB Never leave a muzzled animal unattended, as there is always a risk of asphyxiation by vomit or saliva. There are commercial muzzles available. These come in a range of sizes and may be quicker to put on, but they are much more expensive.

RESTRAINT FOR GENERAL EXAMINATION

When examining any animal it is important that it is restrained correctly. This allows you to complete the examination quickly, efficiently and

confidently without damage to yourself or to your patient. Restraint may be carried out by a nurse, the client or by you, the veterinary surgeon – in many cases it is perfectly possible to both restrain and examine at the same time. You should understand how to restrain an animal so that you can explain it to the person assisting you.

DOGS

Procedure: To examine the cranial end of the body

1. **Action:** Using a correct technique, lift the dog on to a stable examination table covered in a non-slip mat.

   Rationale: *If the table does not shake and the animal's paws do not slip, the animal will feel more secure and will be less inclined to try and escape.*
2. **Action:** Stand to one side of the dog.
3. **Action:** Place one hand under the dog's neck and pull the head close to your chest with your hand.

   Rationale: *If the head is held firmly against your chest the dog cannot move to bite you.*
4. **Action:** Place the other arm over the dog's back with your elbow pointing towards the far side.
5. **Action:** Apply pressure with your elbow along the spine making the dog sit down.

   Rationale: *In a sitting position the dog will feel secure.*

NB Always remember that the closer you are to the animal the less able it will be to bite you!

Procedure: To examine the caudal end of the body or take the rectal temperature

(This continues from the previous procedure.)

1. **Action:** Keep one arm under the neck pulling the head close to your chest.

   Rationale: *If the head is held firmly against your chest, the dog cannot move to bite you.*
2. **Action:** Move the other arm and place it under the abdomen, gently lifting the dog into a standing position.
3. **Action:** Pull the body close to your chest by bringing your forearm up under the abdomen.

   Rationale: *In this position the dog is held securely against you, preventing movement during the examination and reducing the risk of your being bitten.*
4. **Action:** If you are required to restrain the dog for a long period of time, move your hand to lie over the spine but be careful that the dog does not sit down again.

   Rationale: *This position may be more comfortable for you while still retaining control of the dog.*
5. **Action:** If the dog starts to move or to object to the procedure, quickly return to the previous position.

   Rationale: *You must always be aware of the dog's mood and respond quickly to prevent anyone being bitten.*

Procedure: To examine the dog on its side or to provide stronger control (Fig. 1.2)

1. **Action:** Apply a tape muzzle if appropriate (Fig. 1.1).

   Rationale: *This method is used to restrain more aggressive or more difficult dogs so you should be prepared for trouble.*
2. Using correct lifting procedure, lift the dog on to a stable examination table covered in a non-slip mat.

   Rationale: *If the table does not shake and the dog's paws do not slip, the dog will feel secure and less inclined to try and escape.*
3. With the dog in a standing position, stand to one side of it.
4. Reach over the dog's back and grasp the foreleg and hindleg furthest away from you (Fig. 1.2) at the level of the radius and tibia.

   Rationale: *It may be difficult to reach over the back of large dogs especially if you are short or the table is too high.*

Figure 1.2 Restraining a dog on its side.

5. As quickly and as firmly as possible, pull the dog's legs away from you supporting its spine against your chest.

   Rationale: *This must be done quickly before the dog begins to struggle and change position.*

6. **Action:** Gently lower the body down to the table.

   Rationale: *Avoid letting the body drop to the table as it may frighten or injure the animal.*

7. **Action:** Place your arm across the chest and neck and apply firm pressure to keep the dog's head on the table.

   Rationale: *Most dogs will become submissive in this position, but some will try to stand up again and you must be prepared. With a large dog you may have to lean quite heavily on it, but you must always observe the condition of the animal.*

Procedure: To examine or restrain a dog on its back

1. **Action:** Place the dog on its side as previously described.
2. **Action:** Ask an assistant to hold both the back legs while you hold the forelegs.

   Rationale: *If the dog is small this manoeuvre can be performed by one person.*

3. **Action:** Roll the dog over until it is lying on its back.
4. **Action:** Extend the forelegs and hindlegs presenting the ventral abdomen for examination.
5. **Action:** Greater restraint can be achieved by bringing each forelimb to lie on either side of the neck then grasping the scruff of the neck on each side with the same hands.

   Rationale: *Most dogs will feel quite comfortable in this position and will struggle only if they feel insecure or in pain.*

CATS

Most cats are used to being handled and will respond to being stroked and spoken to quietly. Examining these cats should not pose too much of a problem, but some, and particularly feral cats, can be very difficult to handle and you must be prepared to exercise varying degrees of restraint depending on the individual. Remember cats have five weapons of offence: one set of teeth and four sets of claws!

Cats that are used to being handled respond to minimal restraint, but you should be prepared to use firmer methods on more difficult cats, particularly if you are single-handed.

Procedure: Restraint for the examination of a friendly cat

1. **Action:** Place the cat on a stable examination table covered with a non-slip mat.

   Rationale: *The cat will feel secure and comfortable and will be less inclined to make its escape.*
2. **Action:** Stand to one side of the cat.
3. **Action:** Run the hand closest to the cat over its back and under the jaw, gently raising the head up a little.

   Rationale: *If the cat is relaxed this hand can be placed gently on the front of the chest, but you should be ready to restrain the head if necessary.*
4. **Action:** Place the other hand over the forelegs.

   Rationale: *This prevents the cat from raising its forepaws to scratch.*
5. **Action:** If the cat begins to struggle or object to the examination, move the hand from under the chin and grasp the scruff.

   Rationale: *This controls the head allowing examination of the body.*
6. **Action:** Use the elbow on this side to press the cat's body firmly against your side.

   Rationale: *In this position the cat is unable to move or gain enough grip to make an escape. It may be more comfortable to lift the cat, supporting it against your body rather than leaning over the examination table.*
7. **Action:** Use the other hand to hold the forelegs firmly down on the table.

   Rationale: *This controls the forepaws and prevents scratching.*

NB This position uses minimal restraint but will allow you to examine the whole body and take the rectal temperature.

Procedure: Restraint for examination of a fractious cat

1. **Action:** Firmly grasp the scruff of the cat with one hand.

   Rationale: *Some fractious cats seem to have the ability to 'use up' their scruffs by hunching their shoulders and letting their heads sink down, which makes the scruff very difficult to grasp. Adult tomcats also develop thickened scruffs that are difficult to hold for any length of time.*
2. **Action:** Pick up the cat and, with the other hand, grasp its hindlegs.

   Rationale: *You should never suspend a cat by its scruff for any length of time. Always be prepared to support its weight as quickly as you can.*
3. **Action:** Place the cat on the table in lateral recumbency extending its head and hindlegs.

   Rationale: *The cat is unable to move against the strength of the handler's arms, but a really angry cat will continue to attempt to escape and a great deal of growling and mewing may be heard!*
4. **Action:** As the cat struggles, make sure that you keep your arms wide apart to maintain the position.

   Rationale: *As the forelegs are not restrained you must be careful to avoid getting scratched.*

NB This position allows examination of most of the body but it is inadvisable to use it to take the rectal temperature as the cat may struggle and injure itself. For the welfare of the cat, another method of restraint should be adopted as soon as possible.

Restraint equipment, which can be useful for more aggressive cats, includes crusher cages, cat grabbers and cat bags out of which the head or legs can be extended while the rest of the body is retained inside. Wrapping an aggressive cat in a towel is also a useful and cheaper means of restraint. Chemical restraint is widely used, principally by means of an intramuscular injection, but some form of contact with the cat is still required.

In the surgery when moving a cat from room to room it is important to ensure that it does not escape – cats are far more likely to try to escape than dogs. The procedure used depends very much on the nature of the cat.

Procedure: Lifting a friendly cat used to being handled

1. **Action:** Approach the cat calmly and confidently, talking to it quietly.

Rationale: *Most cats are used to the sound of the human voice and will be reassured by a low quiet tone.*

2. **Action:** Assess whether the cat is safe to stroke.

   Rationale: *A frightened or aggressive cat will warn you by hissing or growling as you approach, while a friendly cat may rub itself against your hand and even purr!*

3. **Action:** If safe, gently stroke the top of the head and run your hand along its back.

   Rationale: *This will reassure the cat and may elicit a purr. If the cat hisses, use another method of lifting and restraint.*

4. **Action:** Gently but firmly grasp the scruff of the neck with one hand and lift the cat.

   Rationale: *Picking a cat up by the scruff mimics the way in which the queen carries her kittens. It initiates an innate relaxation response which in the wild would enable the queen to move her kittens safely from place to place without the risk of them struggling and escaping.*

5. **Action:** Place the other hand under the sternum and support the cat.

   Rationale: *Kittens and smaller cats may be lifted by the scruff, but heavier cats need added support.*

6. **Action:** Place the cat on an examination table covered in a non-slip mat.

   Rationale: *If the cat feels insecure, it may try to scratch bite or escape.*

Procedure: Lifting a frightened or aggressive cat

1. **Action:** Grasp the scruff of the cat quickly and firmly.

   Rationale: *If you do not take enough scruff or make any mistake in handling, you are likely to get bitten or scratched.*

2. **Action:** Lift the cat by the scruff letting the body hang down.

   Rationale: *Do not leave the cat 'hanging' for more than a few seconds, as this is unpleasant for the cat, particularly if it is large.*

3. **Action:** Place the cat on a table and restrain in an appropriate way.

   Rationale: *Aggressive cats may have to be restrained using such equipment as a crusher cage or a cat bag.*

Procedure: Carrying a cat (Fig. 1.3)

1. **Action:** Place the body of the cat under one elbow and forearm, holding it close to your side. Let the hindlegs dangle.

   Rationale: *The body is supported by the angle of your arm, but the hindlegs are unable to push the cat's body up in order to make an escape. Watch out for the hindlegs getting caught in your side pockets.*

2. **Action:** Hold the forepaws together between the fingers and thumb of the hand on that side.

   Rationale: *This controls the forepaws and prevents them from scratching you.*

3. **Action:** Hold the scruff of the cat firmly with your free hand.

   Rationale: *In this position the cat feels secure and comfortable. If it tries to escape you have control of the head via the scruff and you can apply stronger pressure to the body with your elbow.*

NB Avoid carrying aggressive or frightened cats around in your arms as such animals' movements are unpredictable. They should be carried in a wire cat basket, which allows them to see out whilst providing you with clear visibility to assess their condition.

Figure 1.3 Carrying a cat.