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# Triage of the emergency patient

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**ABSTRACT:** Triage is the process by which the stability of a patient is determined, being able to confidently triage patients allows those with the greatest need to be identified and treatment started in a timely manner. This article will cover the vital role veterinary nurses play in triage from the initial telephone call through to arrival at the practice, including how to perform a primary and major body systems assessment to prioritise patients.

**Keywords:** triage; primary survey; major body systems assessment; emergency

## Introduction

The term Triage comes from the French 'Trier' which translates to, separate out or to sort. Triage is the sorting of patients according to the severity of their illness to ensure that the most critical patients are treated first (Devey & Crowe, 2007).

Whilst we are very unlikely to see mass casualties in veterinary practice we are often presented with patients with varying degrees of illness and injury at the same time. We can use the triage process to identify those patients which need immediate interventions and those whose clinical status will not be compromised by waiting.

## First contact

Triage starts at the first contact with the client, which in most cases will be a phone call. Appropriate telephone triage is a skill that is relevant to every member of the practice team (Howie, 2016), all members of the veterinary team should be trained in telephone triage and able to identify the common emergencies which need to be seen immediately.

Emergencies which should be offered an immediate appointment

- Respiratory difficulty
- Severe bleeding
- Collapse or loss of consciousness
- Distended abdomen
- Non-productive retching
- Inability to urinate
- Severe neurological abnormalities
- Profuse vomiting or diarrhoea
- Ingestion of toxins

- Significant pain
- Trauma
- Dystocia

(Boag & Marshall, 2020; Brashear, 2015; Howie, 2016; Linklater & Chih, 2020).

Ideally an organised telephone triage system should be in place and all team members should follow the same system (Newfield, 2019). Using a template or checklist when answering calls ensures that all relevant information is collected from and given to the client. In emergency situations it is easy to get distracted and forget to ask important questions or give the client necessary information.

It is vital to remain calm and patient as some clients may be very upset. Being empathetic and using a calm voice whilst explaining that the information being asked for will aid getting their pet seen sooner and can help reassure the client.

Take the client and pet's name plus a contact telephone number at the beginning of the call. This allows the client and pet to be referred to by name, which helps to reassure the owner and should the call be disconnected enables the client to be called back (Boag & Marshall, 2020).

When asking questions, remember that the average client does not have medical knowledge (Frederick, 2014). Initial questions should include:

- Client details
- Patients signalment
- What is the owners concern and duration of the problem?

If the client's answer indicates that the patient's condition is an emergency, they should be advised to bring them straight to the practice. It is not an obvious emergency further questions can be asked to help establish the patient's condition.

Clear directions or a postcode should be provided to the client, especially if they are not being seen at their usual practice or branch and estimated arrival time should be given to the veterinary team (Pointer, 2017).

### Preparation for arrival

The information gathered during the telephone triage stage will enable the team to prepare for the arrival of the patient (Davies, 2012). The 'dyspnoeic cat' is a common phone call and any description of panting cats should prompt staff to gather an oxygen tent or cage and appropriate sedation in case it is required (Donnelly & Lewis, 2016).

### Primary survey

All patients should be triaged on arrival at the clinic even ones which sounded stable on the call, as the severity of the condition could have been missed or the patient may have deteriorated during the journey.

The primary survey looks at four aspects focussing on the major body systems, using the mnemonic A,B,C,D

**A** Alert – is the patient alert?

**B** Breathing – is the patient ventilating effectively?

**C** Circulation – is there a palpable pulse or heartbeat, is there a major external haemorrhage?

**D** Disability – is there evidence of significant neurological concern?

(Donnelly & Lewis, 2016)

This rapid primary survey should take 30–60 seconds to complete (Devey & Crowe, 2007). Any patients with abnormalities in any of these areas will require immediate treatment as cardiopulmonary arrest may be imminent.

### Capsule history

The capsule history should be taken by a veterinary surgeon or veterinary nurse it should be a brief history which is relevant to the patient's presenting problem.

The primary complaint, time of onset, and past pertinent medical conditions should be obtained from the owner (Kirby & Riveria, 2008). The signalment of the patient should

be checked or record it if it was not taken during the call.

Whilst a full medical history is not needed it is important to ask about any concurrent conditions such as diabetes, kidney or cardiac disease, epilepsy and whether they are on any prescribed medications. It is also important to check whether they are on any unprescribed medications or if the client has given any medications prior to attending as it is not uncommon for clients to give human pain medications.

This can be a very worrying time for the clients, it is important to avoid making assumptions and explain clearly what is happening. They may not see the relevance of asking questions regarding the medical history and feel that it is wasting time when treatment needs to be started on their pet. Explaining why this information is required will help and it is important to manage the client expectations so that they understand what is happening.

### Major Body Systems Assessment

A more thorough survey of the major body systems follows the primary survey.

The major body systems are:

- Cardiovascular system
- Respiratory system
- Neurological system

They are defined as such because failure of any of them will cause death within minutes, ultimately, all deaths are due to failure of one or more of these systems (Donnelly & Lewis, 2016).

If any abnormalities of the major body system are identified during the survey immediate action should be taken. If the emergency patient is identified to be stable, a full physical examination should be performed (Silverstein & Hopper, 2014).

This survey is more in depth and involves the recording of parameters and obtaining further information about the patient's status. It

is important to record parameters especially in critical patients where their status can rapidly change, any abnormalities should be communicated to the veterinary surgeon. Whilst veterinary nurses cannot diagnose it is important to be know what is normal to allow abnormalities to be flagged (Table 1).

### Respiratory system

Before any physical examination all patients should have their respiratory rate, effort, noise and pattern observed from afar. If a patient shows any changes in pattern or effort, oxygen supplementation should be provided immediately (Clarke, 2016). For markedly dyspnoeic animals, the level of oxygen in the blood is often only just enough to meet their requirements at rest, any additional oxygen demand (such as that caused by struggling or resisting restraint) can create an oxygen debt, which is a temporary oxygen shortage in the tissues arising from exercise (Donnelly & Lewis, 2016). It is therefore vitally important that these patients are handled with extreme care the method of oxygen supplementation should be carefully considered to prevent distressing the patient, face masks should be avoided in cats.

### Body position

Patients in respiratory difficulty will often present in an orthopnoeic stance - sternal or sitting position with extended neck, open mouth and abducted elbows. Patients with dyspnoea which present unable to settle in a position or are in lateral recumbency, are at risk of cardiopulmonary arrest.

### Respiratory rate

An increase respiratory rate can be seen in response to hypoxaemia, hypoperfusion, stress and pain.

### Respiratory effort

When observing a patient's breathing, there should not be an abdominal component when a patient is breathing normally (Newfield, 2019). Increased abdominal or

Table 1. Normal parameters for major body systems assessment.

Parameter	Normal Values
Heart rate	Cat 150–200 bpm, Dog 60–120 bpm
Pulse rate and quality	Strong and synchronous with each heart beat
Capillary refill time	1–2 seconds
Mucous membrane colour	Pink
Respiratory rate	20–40 bpm
Respiratory effort	Minimal thoracic wall movement with no abdominal involvement
Respiratory noise	
Mentation level	Alert and responsive to surroundings
Gait	Ambulatory with full use of all limbs

(Howie, 2016; Linklater & Chih, 2020; Newfield, 2019).

chest movements show that the patient is having to engage their abdominal and intercostal muscles and demonstrates an increased effort. Noting whether the increased effort occurs on inspiration or expiration can help the veterinary surgeon localise where the problem is occurring.

## Respiratory noise

Any respiratory noise should be noted, stertor and stridor can be heard without auscultation. The chest should be auscultated at both sides and over several areas, abnormal sounds such as wheezes, crackles or a reduction in breath sounds should be noted.

## Cardiovascular system

Assessment of the cardiovascular system gives us essential information about the haemodynamic stability of the patient. Perfusion, blood flow to the tissues, is vital for normal cellular activity and therefore patient survival. The major concerns in relation to the cardiovascular system are hypoperfusion and hypoxaemia.

The main perfusion parameters which should be assessed are, the heart rate, pulse quality and synchronicity with the heartbeat, capillary refill time and mucous membrane colour.

## Heart rate

The heart rate should be counted by auscultation, and any tachycardia or bradycardia noted. It is also important to consider whether the heart rate is appropriate, for example a dog which has been involved in a road traffic accident and is in pain would be expected to be tachycardic, a normal heart rate would be inappropriate bradycardia.

## Pulse

The pulse should be assessed whilst the heart is auscultated, if the pulse is irregular and there is not a corresponding pulse of every heart beat there is a pulse deficit which indicates an arrhythmia.

Pulse quality should also be assessed, abnormalities which can be felt include:

- Tall and narrow – hyperdynamic or bounding pulses
- Weak – thready pulses

## Capillary refill time

If it is not possible to check the gingival mucosa, the preputial or vaginal mucosa can be used. The capillary refill time can be rapid (<1 second) in the early stages of shock, or slow (>2.5 seconds) in late shock.

**Table 2.** Levels of mentation.

Mentation	Clinical Signs
Normal	Normal demeanor and interaction with the environment
Lethargic/depressed	Mildly depressed demeanor and interaction with the environment; patient is aroused with little difficulty
Obtunded	Moderately to severely depressed demeanor and interaction with the environment; patient is aroused with more difficulty than lethargy/depressed
Stuporous	The patient only responds to vigorous or painful stimuli
Comatose	The patient does not respond to any stimuli

(Newfield, 2019).

## Mucous membrane colour

If the gums cannot be assessed, the conjunctiva, the preputial or vaginal mucosa can be used.

Abnormalities which can be seen included:

- Pale membranes – indicative of poor perfusion can be seen in patients with hypovolaemic shock, anaemia, haemorrhage
- Red (congested) membranes – can be seen in patients with distributive shock
- Blue or purple (cyanosis) membranes – indicative of hypoxaemia, can rapidly progress to cardiopulmonary arrest
- Yellow (icterus/jaundice) – can be seen in patients with increased bilirubin in the circulation due to destruction of red blood cells, liver disease
- The presence of petechiation – indicative of a clotting disorder, can be seen in patients with rodenticide toxicity.

## Neurological system

The final step is the neurological assessment, this involves assessment of the patient's mentation and their gait.

Normal mentation is dependent on oxygenated blood flow to the brain; therefore, the cardiovascular and respiratory system findings need to be considered when assessing mentation. If blood flow is compromised as with hypovolaemic shock, there will not be enough oxygen going to the brain and mentation will be altered. Mentation is classified based on the patient's responses (Table 2).

It should be recorded whether the patient is ambulatory, are they using all their limbs or is there any paralysis (plegia) or weakness (paresis). If a patient is exhibiting signs of paralysis the toes can be squeezed to see if they feel their limbs.

## In summary

Having a structured approach to triage is essential, all team members should be trained to recognise emergencies, and

performing a primary survey followed by the major body systems assessment will allow patients to be prioritised appropriately. Good communication is vital to the triage process both with the client and within the veterinary team.

## Disclosure statement

No potential conflict of interest was reported by the author.

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