

## AN OVERVIEW OF BLUNT ABDOMINAL TRAUMA

**CAUSES** Blunt abdominal trauma usually arises from a road accident, particularly in cats. It also occurs after kicks, falls, fights, and in trapped animals which have tried to squeeze through small openings. Working dogs are prone to this type of trauma.

### GENERAL CONSIDERATIONS

**1/TAKE A HISTORY** Ask the client what happened, but use your own judgement as well. The client's opinion of what happened may be incorrect, although truth can be stranger than fiction. In virtually all RTA's the owner will report that the car has "run right over" the animal, even though this is not often the case. Ask the client when it happened. Has the status of the animal changed since the incident? Has there been bleeding / vomiting / urination / defaecation / loss or recovery of consciousness / change in breathing?

**2/EXAMINE THE PATIENT** Check the level of awareness. Be careful when handling to watch for painful areas and a sudden reaction (biting, clawing etc.). Monitor respiration pattern and frequency (ruptured diaphragm) most animals pant after trauma, this is not the same as dyspnoea. Is the animal mobile? If not, this could be due to mechanical problems such as fractures, or other factors, particularly poor circulation or haemorrhage (ruptured abdominal organ) or sheer pain. Remember A.B.C. Airway, Breathing, Circulation. Check the colour, mucous membrane capillary refill time, pulse rate and quality. Palpate the whole animal carefully for pain, swelling, crepitus, abnormal movement. Auscultate the chest methodically. Take the rectal temperature and check the thermometer for blood.

**3/START FIRST AID** Fluids; warmth; arrest of haemorrhage; oxygen.

**BLUNT ABDOMINAL TRAUMA** Consider which organs are most vulnerable to damage. Apart from the bladder, the parenchymatous organs are the most likely to be affected.

**Liver-** Fragile, but enclosed in the lower ribs so protected. Damage leads to haemorrhage and/or biliary system problems, hence jaundice, pain, abdominal swelling.

**Spleen-** Has a stronger capsule than the liver, but less protected so often torn or crushed, leading to haemorrhage-> pallor, circulatory collapse, swollen abdomen.

**Kidneys-** Have a fairly tough capsule, and are tucked up under the ribs, although the Left is more posterior and so slightly more vulnerable. Acute damage leads to haemorrhage, so pain, pallor, and abdominal swelling. Long term problems may arise if approaching 70% of all renal tissue is damaged, in which case renal failure may occur. In this case, ascites and uraemia develop. If the ureters are ruptured or detached then the fluid which develops in the abdomen is effectively urine, and can be tested to reveal this. The Hollow organs may also suffer damage:

Bladder- Urination on stress is a protective mechanism to empty the bladder which is more fragile when full. Remember that some urination may be seen even in an animal with a ruptured bladder. Long term accumulation of urine leads to the appearance of renal failure and swelling of the abdomen.

Stomach + intestines- Most likely to be injured if full of food or gas. If ruptured, then sepsis, peritonitis and shock develop, although the mesentery has a remarkable ability to close small holes in the intestines by sealing them over. Mostly, intestines manage to move out of the way of trauma, and suffer only superficial bruising.

Bile duct damage- Bile peritonitis.

Artery and vein damage- Haemorrhage.

Pancreas- Pancreatitis and local necrosis.

Signs to watch out for: Abdominal swelling and pain, mucous membrane discolouration- either pallor or a "muddy" change which occurs as peritonitis develops. Shock. Lack of urine output ( measured by catheterisation ).

FIRST AID: Fluids- any type, although blood or colloids are preferable for haemorrhage. Oxygen. Warmth. (Pain relief on appropriate veterinary direction).