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#### Title

Cat and Dog Bites are Different and Require Different Principles of Surgical Management

#### Purpose

We have compared bite injuries caused by cats and dogs and analyzed the distinct tissue damage with relation to the animal's dental morphology. The history of the incident is important in distinguishing puncture wounds caused by a 'snap and release', from avulsion-type injuries associated with a 'grip and hold' bite. We aim to define the principles of surgical management depending on the factors above.

#### Methods

We have recorded the demographics, presence of infection, related complications, and bacteriology of all animal bites admitted to our institution from 2013 to 2017.

#### Results

A total of 71 animal bites were included of which 26 were cats and 45 were dogs. The mean age was 41.2 and 52.1 years respectively, mean time from presentation-to-surgery was 59 and 25 hours, and both have a female predominance. The commonest complication associated with cat bites were infections(61.5%). Dog bites were associated with greater degree of soft tissue damage, which included tendon rupture(6.7%), nerve injury(11%), fractures(4.4%), amputations(4.4%), and skin defects requiring resurfacing(5.7%). The commonest organism for both were Pasteurella species.

#### Conclusion

Cats have two pairs of long and sharp canines that mimic hypodermic needles. We should always assume that deep structures are penetrated and therefore joints, tendon sheaths and bone surfaces should be debrided in depth and irrigated. Dogs have wider and shorter teeth, they tend to grip and hold causing an avulsion-type injury with more extensive tissue damage. We believe that a thorough understanding of the animal's dental morphology and pattern of injury is important in defining the surgical management.