

**MANDIBULECTOMY / MAXILLECTOMY:**

Removing a portion of the lower or upper jaw to treat disease or injury.



**Overview—“I don’t understand what a mandibulectomy or maxillectomy is ; please help me understand the treatment and what conditions it manages.”**

The lower jaw bone is called the “mandible”; the upper jaw, the “maxilla”. When we remove a portion of each of those we add the ending -ectomy, “to remove”. Depending on the need, we can remove the entire half of the lower or upper jaw, and we call that a “hemi-“ mandibulectomy/maxillectomy. Or we just remove a portion or a “partial” mandibulectomy/maxillectomy.

The most common reason for removing jawbones is to remove a tumor growing in or on the jaw—originating from bone, the tissues of the gums, or tissue surrounding teeth. Occasionally there is an injury to the jaw that is more efficiently and effectively managed by removing the broken portions than putting them back together again.

**“Why is this procedure being recommended for my pet?”**

Tumors that start in or on the jaw are often effectively cured by removing the tumor and a region of normal tissue around that tumor. To achieve this complete removal and seek a cure, taking a portion of the bone and gums and teeth is often necessary. Amazingly enough, animals function very close to normally without large portions of their jaws, so this is an effective treatment that can result in a cure.

If your pet has a new or old broken portion of the jaw, it can be much easier technically and prognostically to just remove that broken portion (maybe with a few teeth too). This approach allows your pet to move more quickly into healing and normal jaw function.

**“What options do I have to treat my pet’s condition?”**

When deciding how to treat a tumor in the mouth, we often need to know what cells it is made of and how active those cells are. This requires a biopsy of a small piece of the tumor, submitted for analysis. The information gained from this biopsy allows us to give you information about how this tumor will likely behave with no treatment (benign neglect), medical treatment (medication or radiation) or surgical treatment (mandibulectomy/maxillectomy). As mentioned, most tumors closely associated with the jaws are effectively treated with surgical removal. Other tumors benefit from surgical removal followed by medication or radiation.

When deciding how to treat a newly broken jaw, the option of mandibulectomy/maxillectomy is usually only a better/reasonable treatment option for fractures very close to the front of the upper or lower jaw (near the canine teeth). Removing the front “quarter panel” (car reference) is very well tolerated and technically straight forward, while repair of these fractures can sometimes be more difficult.

For poorly healing, older often infected jaw fractures, removing the non-healing bone and implants and infection can speed healing along and return a patient to a highly functional mouth. This option may be more reasonable than a second or third attempt to surgically repair a stubborn jaw fracture.

**“What postoperative expectations and complications do I need to know and understand when considering this surgery?”**

Major surgery on a jaw will be uncomfortable for your pet for a few weeks, and s/he will need to adjust or re-learn how to pick up food. It is common to have blood-tinged saliva for up to a week. Often the local

anesthetics that numb the area at surgery will also make the tongue feel funny and move awkwardly. When a large portion of the lower jaw is removed, the remaining jaw will need time to adjust position and resume function. All of these are to be expected; time, patience and assisting your pet to eat will be needed.

In some patients requiring a large portion of their jaw removed for appropriate treatment of their condition, it **may be helpful to have a feeding tube placed** at the time of surgery. This allows them to receive their nutrition in a low-stress manner while they adjust to their new normal. Feeding tubes (in this instance, usually an “E-tube”) are placed through the skin directly into the esophagus; this is a relatively minor procedure with uncommon and low risks.

It is also an expected outcome for there to be a change in how your pet looks, how their tongue rests, and where their saliva goes. When the portion of the upper jaw is removed, the shape of the muzzle and lips change; often the lower teeth are visible on the outside of the upper lip. It is common for a patient’s tongue to hang down or to the side and be visible a lot more than it used to, when a portion of the lower jaw is removed. It is also common for patients to drool more or get saliva on their fur near the site where the lower jaw is removed.

Complications are usually related to healing of the gum and cheek tissues that are closed over the site of removal. Healing in general is inhibited by bacteria and motion/disturbance to the stitched site. The mouth has both of these in a big way. If the site opens up/stitches come out, this is not an emergency (“middle of the night”) problem, but should be brought to the attention of your veterinary team as soon as possible for correction. It may look very scary, but prognosis for a successful outcome even after some tissues dehisce (ie. break open) is still very good.

#### **“Are there situations when the surgical outcome is not what we hoped it would be?”**

The most common disappointing outcome is the return of a tumor. The likelihood of this happening is higher with some tumors and in some locations that are hard to achieve complete removal.

As mentioned above, drooling and wet fur are common and need to be expected and managed with adjustments to your hygiene routine for your pet. Face wipes, face baths, locally trimming fur (a simple, small mustache trimmer works great) are all accommodations that will help reduce the negative impact of this outcome.

Another disappointment is relative. It should be expected that your pet will look different; adjust your expectations to this outcome ahead of time and it will not feel like a disappointment.

#### **“How is my pet’s life and lifestyle likely to change after this procedure?”**

Yes, lifestyle may change. The larger the portion of jaw to be removed, the larger the potential impact. Some patients will need different feeding routines (bowls, food consistency, clean up), some will need new hygiene routines (cleaning, drying, clipping), some will need different size or shaped toys.

An often-overlooked change may need some careful attention on your part. Dog-to-dog communication relies heavily on facial appearances and changes. A loss of the front portion of the upper jaw may result in the lower canine tooth being seen on the outside of the lip. This can be interpreted by another dog as a “snarl”. Miscommunication in dogs can take the form of fighting. Make sure you are aware of this and the humans of other pets interacting with your dog are aware. Avoid scolding, and help the dogs involved learn the new normal with other cues and encouragement.

Your lifestyle may also change because of your pet's appearance; most people will be curious and you will be asked about your pet's new facial appearance. It is a great time to educate others on the wonderful ways we can help our pets through medical challenges; your pet will also be a role-model for "differences" that we see in human life as well.

**"Are there things I can do to prepare myself, my home and/or my pet for this procedure?"**

Adjustments to lifestyle may involve a lot of trial-n-error. Food dishes, toys, hygiene supplies are all very individual to the patient, the procedure performed and your home setting. Be prepared to try different, often simple, things until a new normal is achieved. Patience is certainly a virtue in managing pets postoperatively from mandibulectomy/maxillectomy.

**Outpatient surgery and anesthesia** can be uncomfortable, painful, disorienting, and frustrating experiences for animals; watching your pet work through the early postoperative period and recover from anesthesia and pain medications can be worrisome, scary and frustrating for pet owners. The vast majority of the time this period of difficulty is brief, and *your pet is actually more comfortable and secure at home with you*. Sometimes it doesn't feel like that at two in the morning when your pet is anxious and not consolable, and you are unsure of what to do. You always have the option of transporting your pet to a 24-hour veterinary facility postoperatively. If you do not want to have your pet home in the first few days postoperatively, please advise your primary care veterinary staff. They will provide contact information for a local 24-hour veterinary facility and help get an estimate for the ongoing care.

It is important that you have proper expectations about this procedure; your experience and you pet's outcome will benefit greatly. Please discuss this information with your veterinarian when working through the decision-making process regarding **mandibulectomy/maxillectomy**.

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