

## Bur Identification

Divide the burs into smoothing, cutting, and diamond functions

All of these burs are FG burs which means?

FG stands for friction grip. Pressing hard while using decreases the function and can damage the turbine. Use light, repeating strokes to complete the desired action. All of these should be used on water-cooled highspeed handpieces. Due to their length and potential to subtly warp, surgical length FG burs will damage turbines faster. Special 45-degree high speed hand pieces exist designed to minimize this issue, if you frequently use surgical length carbide burs.

How often should cutting (carbide burs) be replaced?

Cutting/carbide burs are designed for single use. If it's use is very short (1-3 teeth treated), you may use it for up to three patients. Re-use is increased friction, and can damage your handpiece turbine. Re-use makes the burs more likely to break. Re-use is the use of a dull bur which will slow procedure time, thus increasing anesthesia time.

What shape are these numbered burs? Where is their cutting surface?

¼    ½    1    2    3

These are round "ball" burs. They cut on all sides. The larger the number the more material that is taken away by the bur. One can think of these as tools to take away the periodontal ligament. In general, ¼ and ½ are typically used for cats, while ½ and 2 are usually used for dogs.

What shape are these numbered burs? Where is their cutting surface?

699    700    701

These are taper burs. They cut on the sides, NOT the tip. Use of the tip is the fastest way to break a bur and lose the metal in the patient (not fun). Remember to cut in strokes. One can think of these as tooth sectioning burs. These are commonly needed with additional length to the shank, called *surgical length*, to fully section multi-rooted teeth. 699, 700, and 701 are cross cut taper burs. A 701 removes more tooth than 699. In most cases, reserve 699 for cats and 701 for dogs. Look for surgical length burs in 701 or 171. 171 is a thinner taper than 701, but isn't cross cut, which can take more time and have the potential to create more heat when sectioning teeth.

What shape are these numbered burs? Where is their cutting surface?

329    330                    1557    1558

These are pear shaped or round end taper burs. They function at the tip and sides, sort of like a combination of the round and taper bur. For small dogs and cats, some choose to do almost everything with just this bur, then discard and get a new one for the next patient. (Recall all

carbide/cutting burs are designed for single use.) When additional length is needed to section teeth, then reach for a surgical length bur. 329 is slightly more fine than 330 just like 1557 is thinner than 1558.

What is the difference in the color stripe of the diamond burs?

Black, green, blue, red, yellow

The above list is coarsest to finest. Yellow stripe diamonds do not look like diamonds and are usually for smoothing teeth instead of smoothing alveolar bone. A football, egg, or very large ball diamond bur with blue or green stripe is the most useful for alveoloplasty.

How does one clean diamond burs used for alveoloplasty?

There may be differences of opinion here. Recall that diamond burs are designed for multiple uses. Between patients, the easy way to clean is to run the bur through a clean-a-stone to ensure any patient material that may be caught in the grit of the red to black coarseness is removed. Just run the bur in the highspeed handpiece and bur away a few mm of clean-a-stone which cleans the diamond grit. Now the bur could be run through the ultrasonic cleaner and your autoclave just as any instrument. Diamonds should be replaced if the grit appears worn or every 10-15 patient uses, whichever comes first.

Which two surfaces are most likely to need smoothing? And which bur to use for each purpose?

*Tooth* smoothing, best termed, “odontoplasty” is most commonly accomplished with a white stone bur. The stone is usually Arkansas stone, the same type of substrate as your hand sharpening tools. White stones can shatter – be aware. The key for use is to be sure to have plenty of water on your high speed and use a light, quick touch. We do not want to overheat the tooth, nor place burnish marks on the tooth. This bur is great for removing ledges of uncomplicated crown fractures, but should be followed by finer smoothing with Sho-fu disks and then a restoration. As enamel is at most 0.6mm thick in a dog and 0.1mm thick in a cat, we are often smoothing dentin. Dentin should receive a restoration (another lab opportunity). The yellow stripe diamond is practically the same as this, but different shaped, yet can take away more tooth material than a white stone. White stones come in all sorts of different shapes, but the most common shape for multi-purpose is the flame shape.

*Tissue* smoothing, best termed, “gingivoplasty” is most commonly accomplished with a 12-fluted bur. This is commonly a flame shaped bur and has 12 flutes of cutting edges fanning from the flame’s tip. It recontours gingival tissue while minimizing bleeding. Nerve blocks should be placed prior to its use just as you would prior to a scalpel incision. One company makes a cross-cut “Q finishing” bur that is closest to a 12 fluted with extra teeth for ease in contouring. This bur has both a blue and yellow stripe on it.