

Dental Burs in Veterinary Dentistry

Types, Uses and Practical tips for General practice

Introduction

In general companion-animal practice, veterinary dentistry often focuses on treating periodontal disease. When disease is advanced (Grade 3–4), extraction of affected teeth is usually the only option in general practice.

One of the most valuable tools for extractions is the **air-driven, water-cooled dental drill**, which uses **burs** of different shapes and sizes. These burs cut bone or tooth structure, making extractions safer, faster, and less traumatic.

This guide reviews the most common burs used in general practice and offers practical tips for their selection and use.

Why Burs Matter in General Practice

- Improve efficiency and precision in extractions.
- Reduce the risk of root fracture by exposing bone and sectioning teeth properly.
- Minimize trauma, speed recovery, and reduce frustration for the veterinarian.

Types of Dental Burs

1. Round Burs

Function: Remove bone and create access around roots.

- **Sizes:** $\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 4, 6, 8
 - Smaller burs ($\frac{1}{4}$, $\frac{1}{2}$, 1) → ideal for cats and small dogs.
 - Medium burs (2, 4) → effective in larger dogs.
 - Large burs (6, 8) → aggressive; best for experienced hands.

Uses:

- Remove buccal bone to visualize roots.

- Create “moats” or channels alongside roots for placement of dental elevators or luxators used to fatigue periodontal ligaments.
- Retrieve broken root fragments.

Tip: Start with smaller burs for precision and safety.



2. Cross-Cut Fissure Burs

Function: Section multi-rooted teeth by cutting enamel and dentin.

- **Varieties:** Straight (non-tapered) or tapered.
- **Sizes:** 699, 700, 701, 702, 588
 - 699 → small cats/miniature dogs.
 - 700–702 → medium to large dogs.
 - 588 → very aggressive; best in experienced hands.

Uses:

- Divide multi-rooted teeth into single-rooted segments for easier removal.

Tip: Tapered burs are easier to maneuver in confined spaces and reduce fragmentation.

3. Diamond Burs

Function: Smooth alveolar bone after extractions.

- **Surface:** Coated with diamond grit.
- **Common type:** Medium-grit, football-shaped bur.

Uses:

- Remove jagged bone spicules to improve healing.

Tip: Diamond burs are durable and can often be used on 4–5 patients (with sterilization between cases).

Bur Shafts and Drill/ Hand piece Types

- **Friction Grip (FG):** “Push-button” type; most common in high-speed veterinary drills.
- **Right-Angle (RA):** “Latch-type” burs; less common, usually in low speed drills not interchangeable with FG.



Push Button Type



Latch Type



Practical Note: Always order burs that match your drill/ hand piece type.

Bur Lengths

- **Short burs:** Best for cats and small dogs; easier in tight spaces.
- **Long burs:** These have a longer cutting surface and are useful for larger dogs, especially for sectioning large multi-rooted teeth.
- **Surgical-length burs:** Extended shaft for reaching deep alveoli (round or cross-cut types). Very useful when trying to recover a broken root tip.

Tip: Match bur length to patient size and tooth complexity.

Practical Considerations

- **Single-use burs:** Round and cross-cut burs (steel cutting flutes) dull quickly → discard after one patient. Using these dulled burs on additional patients adds time and complications to the procedure.
- **Reusable burs:** Diamond burs may be used for several patients if sterilized.

- **Sterilization:** Always autoclave between patients to prevent cross-infection of viruses.
- **Inventory:** Burs typically come in packs of 5. Keep at least 2 spares of each commonly used type on hand.

Commonly Used Burs in Practice

Feline Dentistry

- 699 Flat-End Taper Cross-Cut Fissure bur
- $\frac{1}{4}$, $\frac{1}{2}$, 1 Round burs
- $\frac{1}{2}$ Round Surgical bur
- Medium Football Diamond bur

Canine Dentistry

- 2, 4, 6 Round burs (standard and surgical)
- 701 Flat-End Cross-Cut Taper Fissure bur
- 701L Long and Surgical burs for deep sockets
- Medium Football Diamond bur

Key Takeaways for General Practitioners

1. Choose bur size according to patient size and tooth complexity.
2. Use round burs for bone removal, cross-cuts for sectioning multi-rooted teeth, and diamond burs for smoothing bone after an extraction.
3. Match FG or RA type to your drill/hand piece.
4. Discard steel burs after each patient; sterilize diamond burs up to 4 times.
5. Keep a well-stocked bur inventory to avoid delays mid-procedure.