

# The Use of Benzodiazepines in Dentistry

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Greg Allan, 3<sup>rd</sup> year dental student at UBC, presents Dr. Derek Decloux with a hypothetical clinical scenario to better understand the use of benzodiazepines in dentistry.

### **Clinical Scenario:**

- A newly graduated dentist working in Fernie, BC.
- Due to COVID, has not been able to practice giving oral sedation as much as would like.
- First patient of the day is a 60-year-old male with Stage 1 hypertension. He requires an RCT of 46, but has been putting off the appointment due to a bad experience of last root canal.
- Dentist is considering using a benzodiazepine.

### **Should we give a benzodiazepine to this patient?**

- Some form of sedation would be indicated in this case.
- Need to do a consultation to establish indication for sedation. What specifically about this procedure scares this patient? This will help to find the most ideal agent to administer, and the depth of anesthesia or sedation required.
- Given that the patient has hypertension, need to double check medical history and do a review of systems.
- Need to do an airway exam.
- Need to know if the patient has had any sedation in the past.
- Need to know if there are any allergies.
- On the surface, some form of sedation would be indicated and benzodiazepine would work.

### **When should we *not* give a benzodiazepine?**

- When giving any medication, it is important to think about the relative and the absolute contraindications to a drug:
  - Very uncooperative patient
  - Cognitive impairment
  - Psychiatric disorder, specifically if they are experiencing current issues
  - Allergy
  - Poor previous experience with benzodiazepine
  - Acute narrow angle glaucoma
  - Body habitus – if patient is very overweight

### **Would Triazolam be an appropriate benzodiazepine in this case?**

- It's a borderline decision – only because we know that a new grad doing a root canal treatment may take longer than 30-45 mins.
- Triazolam, in addition to a fast onset, has a pretty short duration of action.
- If the procedure is being done over multiple appointments, maybe Triazolam is appropriate for the first appointment.
- Maybe the patient is needle phobic, or anxious about access or achieving pulpal anesthesia, in which case perhaps Triazolam is appropriate.
- But if the patient is going to be nervous for 1-2 hours, maybe we need to think about something a little longer in duration so that the patient is comfortable for the entire procedure.
- For a new grad doing the whole molar endo, Alprazolam or Temazepam would be good options for a mild sedation.

### **What is the preferred route of delivery?**

- Routes of administration for benzodiazepines include:
  - Oral
  - Sublingual
  - Intramuscular
  - Intranasal
  - Rectal
- Each route gives different bioavailabilities.

- Bioavailability will also depend on the drug and how the patient metabolizes that drug.
- For most benzodiazepines, their oral bioavailability is similar to their sublingual bioavailability. But for someone who is very novice at doing sedation, I would probably stick to oral because there are a lot of guidelines about oral dosing.

### **How do you determine the dosage?**

- Three big factors to consider:
  - College guidelines – a good starting point
  - Baseline anxiety of patient
  - Previous sedations patient has had, specifically those done with a benzodiazepine. This can be very helpful.
- As a new graduate, I would stick to the lower ranges of dosage for the first sedation with any patient. Can always respond to that, and in subsequent appointments will have a better idea of appropriate dosage.

### **What should I do if I give too much benzodiazepine?**

- Firstly, it is always better to err on the side of caution by using more conservative doses when sedating a patient for the first time.
- When given a drug, some patients may react more on the sedation hypnosis side of a benzodiazepine than the anxiolysis side. There can be concerns about maintaining airway patency and subsequent oxygen desaturations.
- Even if intent is minimal sedation, we do have to be prepared to rescue that patient from a moderate sedation.
- If a patient goes into moderate sedation, first see how they are tolerating it:
  - Are they able to breathe spontaneously?
  - Are they able to respond to command?
  - Are they able to maintain their oxygen saturation?
- If they tolerate moderate sedation and you can talk them through, then you can probably just wait until they are in a minimal sedation and then proceed with the dentistry.
- If the patient does not tolerate moderate sedation – they are not breathing on their own or not responding to commands – then you should consider a reversal agent.
- If you are in a situation where you feel you cannot manage in your own, you need to think about calling for help.

### **When to refer more complicated patients to a dental anesthesiologist**

- When your skills as a sedationist are being outmatched by the complexity of the patient. For example, a difficult airway or someone who is very uncooperative, has extreme anxiety etc.
- If you have tried the sedation a couple of times and are approaching the upper limits of the doses that you can give for minimal sedation.