

1 . sedation **iv sedation** is a type of sedation

that is administered through an IV to make a patient sleepy and calm during a procedure. The patient is typically awake, but groggy, and are able to follow instructions as needed. The level of sedation provided with this type of anesthesia can range from light, where the patient just feels very relaxed, to heavy, where the patient is unaware of what is happening and only rouses to significant stimulation. Because the level of sedation varies, the process is monitored, with a anesthesia professional present to continuously monitor the patient's vital signs and maintain or adjust the level of sedation as needed.

This type of sedation is frequently used with minor surgical procedures and dental procedures and can be combined with local or regional anesthesia. Depending on the medications used as the doses given, the patient may or may not remember the procedure

IV Intravenous Sedation[detailed]

Intravenous Conscious Sedation (aka "IV sedation") is when a drug, usually of the anti-anxiety variety, is administered into the blood system during dental

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treatment. What does it feel like? Will I be asleep? A lot of dental offices and practices use terms such as “sleep dentistry” or “twilight sleep” when talking about IV sedation. This is confusing, because it suggests that IV sedation involves being put to sleep. These terms are more descriptive of deep sedation. Deep sedation isn’t commonly used (in the U.K. at least), and is classified as [general anaesthesia](#) (even though sedation occurs on a continuum). In reality, you remain conscious during conscious IV sedation. You will also be able to understand and respond to requests from your dentist.

However, you may not remember much (or anything at all) about what went on because of two things:

1. IV sedation induces a state of deep relaxation and a feeling of not being bothered by what’s going on
2. the drugs used for IV sedation produce either partial or full memory loss (amnesia) for the period of time when the drug first kicks in until it wears off. As a result, time will appear to pass very quickly and you will not recall much of what happened. Many people remember nothing at all. So it may, indeed, appear as if you were “asleep” during the procedure.

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First-hand accounts of IV sedation

“Basically, its just a tiny pinch in the back of the hand and in goes the ‘stuff’. Nothing happens for several seconds and then you begin to feel light-headed (a little drunk) for a few moments, which is not unpleasent. Then instantly several hours have magically passed and everything has been done. Its like the flick of a switch which turns your brain off for an hour or two. You feel fairly dopey and woozy afterwards where you may want to go and sleep it off.”

“Well, I DID IT !!!!!!!! ... As I sat in the chair, I could feel my heart racing and remember telling the dentist that I needed to do this... I didn’t feel the IV being inserted, and as he was topping up the sedation level, he gave me the local injections, now this should be freaking me out, but honestly, I only felt a scratch!! and me being needle phobic too! And just to quell any fears about infection being present throughout extraction: The infection i’ve had on and off for months now came back with a vengeance last night, and I NEVER felt it being extracted. Next thing I knew I was in the little recovery room with my partner.”

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“I had iv sedation last Friday and remember nothing about what happened. It was called ‘Twilight Sleep’. If i had known how well it worked i would have had it years ago! Felt absolutely fine afterwards although i am told i was quite confused! You need someone to accompany you and bring you home afterwards.”

“i had iv sedation back in june, got 2 rotten and abcessed teeth extracted and a filling to a front tooth – remember nothing at all from the iv going in, to being aware i was in my husbands car asking for some water and telling him how i felt nothing 😊”

“IV sedation is the best!! I would not hesitate to use it again if I needed to. They numb your hand first, then they put the IV in and before you know it you are off to sleepyland. I really don’t remember too much, just bits and pieces of conversations.”

“I had IV sedation when I got my wisdom teeth surgically removed yesterday. Let me tell you, it was AMAZING. Cannot put it in better words. All I remember is the doctor putting the sedative in the IV, feeling COMPLETELY relaxed, and still in control of everything, and closed my eyes and before I could reach 8

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counting backwards, I was peacefully asleep. I woke literally 2 seconds later with no pain at all! I didn't believe the doctor when he said it was all over."

Is it still necessary to be numbed with local anaesthetic? Will my dentist numb my gums before or after I'm sedated?

The drugs which are usually used for IV sedation are not painkillers (although some pain-killing drugs are occasionally added, see below for more info), but anti-anxiety drugs. While they relax you and make you forget what happens, you will still need to be numbed.

If you have a fear of injections, you will not be numbed until the IV sedation has fully kicked in. If you have a phobia of needles, you will very probably be relaxed enough not to care by this stage. Your dentist will then wait until the local anaesthetic has taken effect (i. e. until you're numb) before starting on any procedure.

🤔 "But how does the dentist know whether I'm numb?"

“You check the local anesthetic has worked by asking the patient. Just coz they’re sedated doesn’t mean they can’t answer you... in fact they better be able to answer or they ain’t sedated, they’re anaesthetised! If they’re not numb enough they’ll soon tell you. But they won’t remember telling you of course because of the amnesia effect...” (*answer courtesy of Gordon Laurie, BDS –*

How is IV sedation given?



“Intravenous” means that the drug is put into a vein. An extremely thin needle is put into a vein close to the surface of the skin in either the arm or the back of your hand. This needle is wrapped up with a soft plastic tube. It makes the entry into the vein, then is slid out leaving the soft plastic tube in place. The drugs are put in through that tube (which is correctly referred to as an “indwelling catheter”, but more commonly known by the tradename of Venflon). The tube stays in place throughout the procedure.

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The venflon to the right is a pinkie, which is one size bigger than the blue one that's usually used for IV sedation in dentistry.

Throughout the procedure, your pulse and oxygen levels are measured using a "pulse oximeter". This gadget clips onto a finger or an earlobe and measures pulse and oxygen saturation. It gives a useful early warning sign if you're getting too low on oxygen, although if your dentist and the nurses are paying attention they should see it way before the machine does 😊. Blood pressure before and after the procedure should be checked with a blood pressure measuring machine (a tongue-twister called "sphygmomanometer", which for obvious reasons is referred to as "sphyg").

Is it safe? Are there any contraindications?

IV sedation is extremely safe when carried out under the supervision of a specially-trained dentist. Purely statistically speaking, it's even safer than local anaesthetic on its own!

However, contraindications include-pregnancy

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- known allergy to benzodiazepines
- alcohol intoxication
- CNS depression, and
- some instances of glaucoma.

Cautions (relative contraindications) include psychosis, impaired lung or kidney or liver function, advanced age, and sleep apnea. Many people who have sleep apnea haven't been officially diagnosed – if you are overweight and you snore, do mention this. Heart disease is generally *not* a contraindication. If you have been taking benzodiazepines for many years, your tolerance may be very high – so let your dentist know that you've been taking them!

What are the main advantages of IV sedation?

- IV sedation tends to be the method of choice if you don't want to be aware of the procedure – you “don't want to know”. The alternative in the U.S. is oral sedation using Halcion, but oral sedation is not as reliably effective as IV sedation.

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- The onset of action is very rapid, and drug dosage and level of sedation can be tailored to meet the individual's needs. This is a huge advantage compared to oral sedation, where the effects can be very unreliable. IV sedation, on the other hand, is both highly effective and highly reliable.
- The maximum level of sedation which can be reached with IV is deeper than with oral or inhalation sedation.
- Benzodiazepines produce amnesia for the procedure.
- The gag reflex is hugely diminished – people receiving IV sedation rarely experience [difficulties with gagging](#). Unlike General Anaesthesia or Deep Sedation, conscious IV sedation doesn't really introduce any compromises per se in terms of carrying out the actual procedures, because people are conscious and they can cooperate with instructions, and there is no airway tube involved.

Are there any disadvantages?

- It is possible to experience complications at the site where the needle entered, for example hematoma (a localized swelling filled with blood).

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- While IV sedation is desired precisely because of the amnesia effect (i. e. forgetting what happened while under the influence of the drug/s), there can be a downside to this: if you can't remember that the procedure wasn't uncomfortable or threatening, you cannot unlearn your fears. However, it depends on the precise nature of your phobia and the underlying causes to which extent this may be a problem. Some people would voice a concern that some patients can't be "weaned off" IV sedation, as dental anxiety tends to return to baseline levels. As a result, people who rely on IV sedation may be less likely to seek regular dental care. Other people would argue that this is not a concern if IV sedation is readily available to people.
- Some dentists may resort to IV sedation too quickly. Sedation should not be used as a substitute for TLC and [behavioural techniques](#), but as an additional tool if these alone don't work, or if it is a potentially traumatic procedure. You should *want* sedation, rather than feeling forced into it because your dentist is unwilling to explore other ways of helping you.
- Recovery from IV administered drugs is not complete at the end of dental treatment. You need to be escorted by a responsible adult.

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- Cost is another disadvantage – IV sedation is more expensive than other sedation options.

What about eating and drinking before sedation?

Some dentists in the U.K. prefer to have people have a light meal about an hour before they come in (this is for conscious sedation using midazolam), but it may depend on the drugs used for the IV. In the U.S., the standard advice appears to be no eating or drinking for 8 hours beforehand. Where a GA drug like propofol or ketamine or a barbiturate is used, there is a danger that a person who regurgitates food while anesthetized could get food or liquid into their lungs.

After IV Sedation:

1. Have your escort take you home and rest for the remainder of the day.
2. Have an adult stay with you until you're fully alert.
3. Don't perform any strenuous or hazardous activities and don't drive a motor vehicle for the rest of the day.

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4. Don't eat a heavy meal immediately. If you're hungry, eat something light, e. g. liquids and toast.
5. If you experience nausea, lie down for a while or drink a glass of coke.
6. Don't drink alcohol or take medications for the rest of the day unless you've contacted your dentist first.
7. Take medications as directed by your dentist.
8. If you have any unusual problems, call your dentist.

2 . General Anaesthesia

General Anaesthesia (GA) refers to being “put to sleep”. During GA, you are unconscious.

Has general anaesthesia for dental treatment gone out of fashion?

General Anaesthesia is rarely used for dental treatment nowadays. One of the reasons for this is that [IV sedation](#) with midazolam works so well for nearly

everyone, and is extremely safe. Each general anaesthetic carries a certain amount of risk.

Disadvantages of General Anaesthesia

Apart from the risk of serious complications (which, while very small, is still much higher than for conscious IV sedation), general anesthesia has a few major disadvantages:

- GA depresses the cardiovascular and respiratory systems. For some groups of medically compromised patients, it is contraindicated for elective procedures.
- You can't drink or eat for 6 hours before the procedure (otherwise, vomiting is possible and this would be very dangerous during GA).
- It's expensive.
- GA does nothing to reduce dental anxiety.

When is general anaesthesia used?

GA can be useful or even indicated for certain situations.

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- Conscious IV sedation works for about 97% of extremely anxious people. But there will always be a few people for whom it doesn't work, either because you find it impossible to cooperate even when sedated and/or because you have a very high tolerance to the drugs used for IV sedation. This appears to be more common if you've been taking similar drugs long-term for other mental health conditions. In this case, GA may be the best option.
- For short or longer potentially traumatic procedures, such as the removal of wisdom teeth which are completely covered in bone, or certain other types of oral surgery. While there may be alternatives like multiple shorter appointments, in some cases GA may be preferable. If it's extractions that really terrify you, it may be possible to be put to sleep for the extractions and then have fillings etc. done under conscious sedation with local anaesthetic.

How is it administered?

GA is usually started off with an injection in the hand or arm. It can be supplemented by a face mask but if a face mask is used you probably won't remember it.

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If post-op pain is expected, the normal practice is to inject a long acting local anaesthetic during the GA, so that when you wake up everything is nice and numb for a good few hours afterwards, which should give you time to take some painkillers and allow them to kick in. It's much better to prevent pain than it is to try to deal with it once it has started.

Will I wake up?

“I need to have severely impacted wisdom teeth taken out, and the oral surgeon strongly recommends GA – but I'm scared to death of being ‘put to sleep’ and not waking up!”

If GA has actually been recommended to you because the dentist or oral surgeon anticipates that the surgery will be too unpleasant otherwise, general anesthesia will make things much easier for you.

What is it like? First-hand accounts of General Anesthesia

“My appt. was at 8am, so luckily I didn't have to wait long at all. Practically as soon as I signed in and paid, they called me back. I was brought into the OR room. I removed my sweatshirt and sat in the chair. They put a sterile hat on

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me and a blue napkin/cover thing. They put a pulse ox and blood pressure cuff on me. I'm not going to lie, sitting in that chair waiting was the most scared I have ever been. I have never had surgery before. I kept looking at the monitor which was non-stop beeping because my heart rate was in the 140's due to being so nervous. They were all like, "Wow, you really are nervous, aren't you?" I was like, "Duh."

Anyway, so I tried to focus on my breathing to bring my heart rate down, which helped some. They put the IV in, which was no big deal. Just a little pinch. They started a saline drip, I think. Then they put this thing over my nose and said it was oxygen. By this point, I was just ready for them to put me to sleep because of how nervous I was.

I closed my eyes because when I went to sleep I wanted make it as natural as possible. I remember sitting there a few more moments with my eyes closed...

Then I woke up. And it was all over. I didn't feel/hear anything during the surgery, which is what my silly brain thought was going to happen."

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“I’m 34 years old and had two impacted lower wisdom teeth and normal uppers. My oral surgeon was fantastic and suggested GA due to having all four removed. I was totally trepidacious, not sleeping the night before and pacing the waiting room just before the procedure. That said, this was the easiest and most painless surgery I’ve ever had. First they get you a little nitrous to calm you down, then they spray some sort of light freezing concoction on your arm before the IV....didn’t even feel the needle. 15 seconds later, you’re feeling fantastic. Next thing you know, you’re waking up. I had no pain whatsoever. I was alert soon after and able to leave.”

3 . Local anesthesia is a type of pain prevention used during minor procedures to numb a small site where pain is likely to occur without changing the patient's awareness. A numbing medication is either applied to or injected into the area, sometimes with several small injections, and after a few minutes the area should be completely numb. If the area still has sensation, additional injections or applications may be given to insure total numbness. Local anesthesia is most commonly associated with dental

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procedures, where the gum is numbed with an injection of medication, or minor medical procedures like stitches

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