

A Simple Guide to Anesthesia Medicines by Dr. Jannat Shayyan

Assalam-o-Alaikum, my dear friends and students! Welcome to this heartfelt guide about the medicines we use in anesthesia, a field I cherish deeply. These special medicines help you sleep peacefully, stop pain, or numb specific areas during surgery, ensuring your comfort and safety. I am Dr. Jannat Shayyan, an anesthesiologist with years of experience, and I draw my knowledge from the wonderful book *Morgan & Mikhail's Clinical Anesthesiology*, which is like a trusted companion in my practice. Today, I will share 100 detailed yet simple questions and answers with you, focusing on the pharmacology of anesthesia agents—inhalational, intravenous, and local anesthetics. My aim is to teach you with love and clarity, so let's begin this beautiful journey together!

Questions and Answers by Dr. Jannat Shayyan

Inhalational Agents (e.g., Sevoflurane, Isoflurane)

1. **Q: What is an inhalational agent?**

A: My dear friends, an inhalational agent is a special gas or vapor we ask you to breathe through a mask or tube during surgery. This gas, like a gentle sleep spell, makes you fall asleep and stay comfortable while the doctors work. My beloved book, *Morgan & Mikhail's Clinical Anesthesiology*, teaches me that these agents are vital for keeping you safe and pain-free throughout the operation.

2. **Q: What does sevoflurane do?**

A: Oh, sevoflurane is a blessing, my students! It's an inhalational gas that puts you into a deep, calm sleep during surgery. What makes it special is how quickly it works and how fast you wake up after. My book explains that it's especially good for children and short procedures because it's so gentle on your body, but we always watch your breathing and heart to keep you safe.

3. **Q: How does isoflurane work?**

A: Isoflurane, my dear ones, is another wonderful gas we use to maintain your sleep during longer surgeries. It enters your lungs and travels to your brain, calming it down so you feel no pain or awareness. *Morgan & Mikhail's Clinical Anesthesiology* tells me it's steady and reliable, though it takes a little longer to wear off compared to sevoflurane, so we adjust it carefully.

4. **Q: Is sevoflurane safe for kids?**

A: Yes, absolutely, my little friends! Sevoflurane is very safe for children because it's easy to control and doesn't upset their small bodies too much. My book highlights that we use it often for kids' surgeries, like fixing a broken bone, but we keep a close eye on their oxygen levels and heart rate to ensure everything goes smoothly.

5. **Q: What happens if we use too much sevoflurane?**

A: If we use too much sevoflurane, my dears, it can lower your blood pressure and slow your breathing, which can be risky. My book warns us to watch the amount we give and use machines to check your vital signs. If this happens, we stop or reduce it and give you fluids or oxygen to bring you back to a safe state—teamwork is key here!

6. **Q: How does isoflurane leave your body?**

A: Isoflurane leaves your body mostly when you breathe out, my friends. It doesn't

stay long in your system because your lungs push it out after the surgery. *Morgan & Mikhail's Clinical Anesthesiology* assures me this makes it safe, though we still monitor you to ensure no side effects like dizziness linger too long.

7. Q: Can sevoflurane cause nausea?

A: Yes, my dear patients, sevoflurane can sometimes make you feel nauseous after waking up. This happens because it affects your stomach a little. My book suggests we can give you a special anti-nausea medicine beforehand or right after to make you feel better quickly—don't worry, we take good care of you!

8. Q: Why do we use inhalational agents?

A: We use inhalational agents, my students, to keep you asleep and pain-free during operations. They're like a magic shield that lets surgeons work without you feeling anything. My book explains that they're essential for all kinds of surgeries, from small fixes to big ones, and we adjust them to fit your needs.

9. Q: Is isoflurane fast-acting?

A: Isoflurane isn't the fastest, my dear ones, but it's steady and reliable. It takes a few minutes to start working, which is slower than some IV medicines, but it stays consistent during long surgeries. My book teaches me to use it when we need stable control rather than a quick start.

10. Q: What is a side effect of sevoflurane?

A: A common side effect of sevoflurane, my friends, is shivering when you wake up because your body gets cold during surgery. My book advises us to use warm blankets or heated air to keep you cozy, and this simple step helps you feel comfortable as you recover.

Intravenous Agents (e.g., Propofol, Ketamine, Barbiturates)

11. Q: What is an intravenous agent?

A: An intravenous agent, my dear students, is a medicine we put directly into your vein through a small tube. This sends it quickly to your body to make you sleep or feel calm during surgery. My book, *Morgan & Mikhail's Clinical Anesthesiology*, shows me how these are the backbone of starting anesthesia safely.

12. Q: What does propofol do?

A: Propofol is like a gentle sleep potion, my friends! It makes you fall asleep within seconds when we inject it, and it's perfect for starting surgery. My book loves it because it also helps you wake up fast, though we watch your blood pressure because it can drop a little.

13. Q: How is ketamine different?

A: Ketamine is special, my dears—it makes you feel like you're in a dream and stops pain without stopping your breathing or heart completely. My book explains that it's great for emergencies, like when we can't wait to operate, but we sometimes see funny dreams after, which we calm with care.

14. Q: What are barbiturates?

A: Barbiturates are older sleep medicines, my students, that we used to put people to sleep deeply. My book says we don't use them as much now because they take longer to wear off and can affect breathing, but they were a big help in the past.

15. Q: Can propofol make you sick?

A: Yes, my dear patients, propofol can sometimes make you feel sick to your

stomach after waking up. My book suggests we give you a medicine like ondansetron before or after to stop this nausea, ensuring you feel good as you recover.

16. Q: How fast does propofol work?

A: Propofol works super fast, my friends—within 30 to 60 seconds! My book tells me this is why we love it for starting anesthesia, as it puts you to sleep almost instantly, like a magic switch.

17. Q: What happens if ketamine lasts too long?

A: If ketamine lasts too long, my dears, you might feel confused or see strange things when you wake up. My book says this is called emergence delirium, and we calm you with a quiet room or a little extra medicine to make it go away.

18. Q: Is propofol safe for everyone?

A: Propofol is safe for most people, my students, but we watch your heart and breathing closely. My book warns that it can lower blood pressure, so we adjust the dose and give fluids if needed, especially for those with weak hearts.

19. Q: How do barbiturates affect you?

A: Barbiturates make you sleep very deeply, my friends, but they take time to wear off, leaving you sleepy after. My book cautions us to use them carefully because they can slow your breathing, requiring extra monitoring.

20. Q: Can ketamine help with pain?

A: Oh yes, ketamine is wonderful for pain, my dears! My book explains that it blocks pain signals in your brain, making it perfect for injuries or surgeries where we need quick relief, all while keeping your breathing steady.

21. Q: What if propofol lowers blood pressure?

A: If propofol lowers your blood pressure, my students, we give you fluids through your vein and sometimes a medicine to raise it. My book stresses acting fast to keep your heart and body strong during surgery.

22. Q: How is ketamine given?

A: We can give ketamine through your vein or a shot in your muscle, my friends. My book says the vein method is faster for surgery, while the muscle one is good for emergencies when veins are hard to find.

23. Q: Do barbiturates affect breathing?

A: Yes, barbiturates can slow your breathing, my dears, which is why we watch you closely. My book teaches me to have oxygen and breathing help ready if needed during their use.

24. Q: Why do we like propofol?

A: We love propofol, my students, because it puts you to sleep fast and lets you wake up quickly with fewer side effects. My book calls it a favorite for short surgeries and even sedation during small procedures.

25. Q: Can ketamine cause dreams?

A: Yes, ketamine can cause dreams or even scary visions, my friends. My book says this happens as you wake up, and we comfort you with a calm environment or a little medicine to ease your mind.

Local Anesthetics (e.g., Lidocaine, Bupivacaine)

26. Q: What is a local anesthetic?

A: A local anesthetic, my dear ones, is a medicine we inject or put on your skin to

numb a small area, like a tooth or cut, so you don't feel pain there. My book, *Morgan & Mikhail's Clinical Anesthesiology*, shows me how it's a gentle way to help.

27. Q: What does lidocaine do?

A: Lidocaine is a magic numbing medicine, my students! It stops the nerves in a small area from sending pain signals, making procedures like stitching a cut painless. My book says it's safe if we use the right amount.

28. Q: How long does bupivacaine last?

A: Bupivacaine lasts a long time, my dears—about 4 to 8 hours! My book explains that it's perfect for surgeries or pain relief that needs to continue after, like after a big operation.

29. Q: Is lidocaine safe for all?

A: Lidocaine is safe for most people, my friends, but we must limit how much we use to avoid problems. My book teaches me to calculate the dose based on your weight and watch for any signs of trouble.

30. Q: What happens if we use too much bupivacaine?

A: If we use too much bupivacaine, my dear patients, it can affect your heart and cause serious issues like seizures or a slow heartbeat. My book says we use a special fat medicine to fix it if this happens, and we always measure carefully.

31. Q: How does lidocaine work?

A: Lidocaine works by blocking the tiny doors on your nerves that send pain messages, my students. My book describes it as a shield that stops the pain from reaching your brain—amazing, isn't it?

32. Q: Can bupivacaine be used for big areas?

A: Yes, bupivacaine can numb big areas, my dears, like your legs or back, when we do special injections. My book guides me to use it for things like epidurals, but we watch your body closely.

33. Q: What is a sign of lidocaine overdose?

A: A sign of too much lidocaine, my friends, is ringing in your ears, shaking, or feeling dizzy. My book says we stop it right away and give help, like oxygen, to keep you safe.

34. Q: Why add epinephrine to lidocaine?

A: We add epinephrine to lidocaine, my students, to make the numbness last longer and reduce bleeding by tightening blood vessels. My book cautions us not to use it near fingers or toes where blood flow is critical.

35. Q: How do we give bupivacaine?

A: We give bupivacaine with a small needle near the nerves we want to numb, my dears. My book shows me how to use ultrasound or feel the spot to make sure it works well and safely.

36. Q: Can lidocaine cause allergies?

A: Rarely, lidocaine can cause an allergy, my friends, like a rash or trouble breathing. My book says we test first if we suspect this and switch to another medicine if needed.

37. Q: How long does lidocaine last?

A: Lidocaine lasts about 1 to 2 hours, my dear ones, which is perfect for quick fixes like dental work. My book tells me we can add epinephrine to make it last a bit longer.

38. Q: What if bupivacaine spreads too much?

A: If bupivacaine spreads too much, my students, it can numb areas we don't want,

like your chest. My book says we use less and watch your breathing and heart to keep you safe.

39. Q: Is bupivacaine good for surgery?

A: Yes, bupivacaine is excellent for surgery, my dears, especially for long operations where pain relief is needed after. My book loves it for spinal or nerve blocks during big procedures.

40. Q: How do we check lidocaine safety?

A: We check lidocaine safety, my friends, by watching your heart with a monitor and limiting the dose. My book stresses that keeping track prevents any harm.

41. Q: Can local anesthetics stop breathing?

A: Only if we use way too much, my dear patients. My book warns that an overdose can affect your whole body, so we always calculate and monitor you.

42. Q: What is a common use of lidocaine?

A: A common use of lidocaine, my students, is for numbing teeth at the dentist or small cuts at the clinic. My book says it's quick and effective for these jobs.

43. Q: How does bupivacaine affect nerves?

A: Bupivacaine stops the nerves from sending pain, my dears, by blocking their signals completely. My book explains it works strongly, which is why it lasts so long.

44. Q: Can we mix lidocaine with other medicines?

A: Yes, we can mix lidocaine with others, my friends, but we do it carefully to avoid problems. My book advises checking with experts if we're not sure.

45. Q: What is a risk of local anesthetics?

A: A risk is that too much can cause seizures, my students. My book says we prevent this by using the right amount and watching you closely.

46. Q: How fast does lidocaine work?

A: Lidocaine works in just a few minutes, my dear ones! My book says this speed makes it perfect for quick procedures like stitching.

47. Q: Is bupivacaine safe for kids?

A: Yes, bupivacaine is safe for kids, my friends, if we use a small dose. My book guides me to adjust it for their tiny bodies and monitor them well.

48. Q: What helps lidocaine last longer?

A: Adding epinephrine helps lidocaine last longer, my dears, by slowing its spread. My book says it's a smart trick, but we use it wisely.

49. Q: Can bupivacaine cause numbness after?

A: Yes, bupivacaine can leave numbness after, my students, but it fades as the medicine wears off. My book says this is normal and not to worry.

50. Q: How do we store local anesthetics?

A: We store them in a cool, dark place, my friends, to keep them strong. My book reminds me to check the date before using them.

Mixed Pharmacology Questions

51. Q: Which medicine wakes you up fastest?

A: Propofol wakes you up the fastest, my dear ones! My book says its quick action makes it a top choice for short surgeries, and we love seeing you alert soon after.

52. Q: Can inhalational agents cause shivering?

A: Yes, inhalational agents like sevoflurane can cause shivering, my students,

because your body gets cold. My book teaches us to use warm blankets to keep you cozy during recovery.

53. Q: How does ketamine help in emergencies?

A: Ketamine helps in emergencies, my dears, by stopping pain and keeping your breathing and heart stable when we can't wait. My book highlights its life-saving role in trauma cases.

54. Q: What is a slow medicine?

A: Barbiturates are a slow medicine, my friends, taking time to wear off after surgery. My book says we use them less now because of this, preferring faster options.

55. Q: Can propofol cause low blood pressure?

A: Yes, propofol can lower blood pressure, my students. My book advises us to give fluids or a small boost medicine to keep your heart happy during the procedure.

56. Q: How does sevoflurane affect kids?

A: Sevoflurane is gentle on kids, my dear ones, putting them to sleep safely for surgery. My book says we adjust the dose and watch their little hearts and lungs closely.

57. Q: What is a risk of isoflurane?

A: A risk of isoflurane, my friends, is that it can slow your breathing if we're not careful. My book teaches me to use monitors and adjust it to keep you safe.

58. Q: Can ketamine cause bad dreams?

A: Yes, ketamine can cause bad dreams, my dears, when you wake up. My book says we comfort you with a quiet room or a little calming medicine to make it better.

59. Q: How long does thiopental last?

A: Thiopental lasts a few hours, my students, making you sleepy for a while after. My book notes it's slower to wear off, so we use it only when needed.

60. Q: What helps with propofol nausea?

A: We help propofol nausea, my friends, with a medicine like ondansetron. My book suggests giving it before or after to keep your stomach calm and happy.

61. Q: Is lidocaine good for teeth?

A: Yes, lidocaine is great for teeth, my dear ones! My book says dentists use it to numb your mouth quickly for fillings or extractions, making it painless.

62. Q: Can bupivacaine be used for labor?

A: Yes, bupivacaine is used for labor, my students, in epidurals to ease pain. My book guides me to watch the mother and baby closely for safety.

63. Q: What if sevoflurane makes you sick?

A: If sevoflurane makes you sick, my dears, we give an anti-nausea medicine right away. My book says this keeps you comfortable as you wake up.

64. Q: How does propofol leave your body?

A: Propofol leaves through your liver and kidneys, my friends, breaking down fast. My book says this is why you wake up so quickly after we stop it.

65. Q: Can isoflurane affect your heart?

A: Yes, isoflurane can slow your heart, my students. My book teaches me to use monitors and adjust it to keep your heart beating strong.

66. Q: What is a safe dose of lidocaine?

A: A safe dose of lidocaine is 4-5 mg per kg of your weight, my dears. My book says we calculate it carefully to avoid any harm.

67. Q: How does ketamine work?

A: Ketamine works by blocking pain signals in your brain, my friends. My book explains it's like a shield that keeps you comfortable during tough situations.

68. Q: Can barbiturates cause sleepiness?

A: Yes, barbiturates cause a lot of sleepiness, my students. My book warns us to watch you closely because it can last longer than we want.

69. Q: What is a side effect of propofol?

A: A side effect of propofol, my dears, is feeling weak or tired after. My book says this is normal and goes away with rest.

70. Q: How do we give sevoflurane?

A: We give sevoflurane through a mask or breathing tube, my friends. My book says it's easy to control and adjusts to your needs during surgery.

71. Q: Can lidocaine stop pain fast?

A: Yes, lidocaine stops pain very fast, my dear ones—within minutes! My book says this makes it perfect for quick fixes like small cuts.

72. Q: What if bupivacaine hurts your heart?

A: If bupivacaine hurts your heart, my students, we use a special fat medicine called Intralipid. My book says to act quickly to save you.

73. Q: Is isoflurane good for long surgeries?

A: Yes, isoflurane is great for long surgeries, my dears, because it stays steady. My book likes it for keeping you asleep without changes.

74. Q: How does propofol help sleep?

A: Propofol helps sleep by calming your brain, my friends. My book says it's strong and works fast to keep you resting during surgery.

75. Q: Can ketamine be used for kids?

A: Yes, ketamine can be used for kids, my dear ones, with small doses. My book says it's safe if we watch their breathing and heart.

76. Q: What is a risk of barbiturates?

A: A risk of barbiturates, my students, is that they can stop your breathing if too much is given. My book warns us to be very careful.

77. Q: How long does sevoflurane last?

A: Sevoflurane lasts as long as we keep giving it, my friends. My book says we can stop it anytime, and you wake up soon after.

78. Q: Can lidocaine cause tingling?

A: Yes, lidocaine can cause tingling, my dears, as it starts to numb. My book says it's normal and goes away quickly.

79. Q: What makes bupivacaine strong?

A: Bupivacaine is strong because it sticks to nerves well, my students. My book explains this is why it lasts so long and works deeply.

80. Q: How do we check propofol safety?

A: We check propofol safety, my friends, by watching your heart, breathing, and blood pressure with machines. My book guides us to keep you stable.

81. Q: Can isoflurane make you dizzy?

A: Yes, isoflurane can make you dizzy, my dear ones, when you wake up. My book says it fades with rest and fresh air.

82. Q: What helps ketamine work better?

A: Giving ketamine slowly helps it work better, my students. My book says this keeps it safe and effective for you.

83. Q: Is thiopental still used?

A: Thiopental is used less now, my friends, because newer medicines are better. My book says it's mostly for emergencies.

84. Q: Can propofol cause green urine?

A: Yes, propofol can make your urine green, my dears, but it's harmless. My book says it's just a funny side effect!

85. Q: How does lidocaine affect nerves?

A: Lidocaine stops nerves from sending pain, my students, by blocking their signals. My book loves how it works so well.

86. Q: Can bupivacaine last all day?

A: Yes, bupivacaine can last all day, my dear ones, with the right dose. My book says it's great for after-surgery pain.

87. Q: What if sevoflurane stops working?

A: If sevoflurane stops working, my friends, we add more or switch medicines. My book says to adjust it to keep you asleep.

88. Q: How does ketamine affect the mind?

A: Ketamine makes your mind feel far away, my students, like a dream. My book says it's normal, and we help if it's scary.

89. Q: Can barbiturates cause shakes?

A: Yes, barbiturates can cause shakes, my dears, if we use too much. My book says to lower the dose to stop it.

90. Q: What is a good use of propofol?

A: Propofol is great for short surgeries, my friends, like looking inside with a camera. My book says it's perfect for this!

91. Q: Can isoflurane make you sleepy after?

A: Yes, isoflurane can make you sleepy after, my dear ones. My book says it goes away with rest and time.

92. Q: How does lidocaine help teeth?

A: Lidocaine helps teeth, my students, by numbing them fast for fillings or pulling. My book says it's a dentist's best friend!

93. Q: Can bupivacaine cause swelling?

A: Rarely, bupivacaine can cause swelling, my dears, if it spreads. My book says to watch and treat it if needed.

94. Q: What if propofol makes you cold?

A: If propofol makes you cold, my friends, we use warm blankets or air. My book helps us keep you cozy!

95. Q: How does sevoflurane smell?

A: Sevoflurane has a sweet, nice smell, my dear ones. My book says it's pleasant and helps you relax.

96. Q: Can ketamine stop pain long?

A: Ketamine doesn't stop pain long, my students, but it helps for a short time. My book says we add other medicines if needed.

97. Q: Is barbiturates safe for old people?

A: Barbiturates can be safe for old people, my dears, but we use less. My book says their bodies need extra care.

98. Q: How does propofol look?

A: Propofol looks like a white, milky liquid, my friends. My book describes it as easy to see in the syringe!

99. **Q: Can lidocaine be used on skin?**

A: Yes, lidocaine can be used on skin, my dear ones, as a cream for small pains. My book says it works well!

100. **Q: Why do we study these medicines?**

A: We study these medicines, my beloved students, to keep you safe, pain-free, and happy during surgery. My book inspires me every day to learn more and care for you with all my heart!

Dr Jannat Shayyan