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# Podiatric

## Medicine and Surgery Part II

### NATIONAL BOARD REVIEW

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Donald Kushner



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of WISDOM

# **Podiatric Medicine and Surgery Part II**

## **NATIONAL BOARD REVIEW**

Second Edition

Donald Kushner, D.P.M.

**McGraw-Hill**

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## INTRODUCTION

Congratulations! *Podiatric Medicine and Surgery Part II National Board Review: Pearls of Wisdom* will help you pass the national boards and improve your board scores. This book's unique format differs from all other review and test preparation texts. Let us begin, then, with a few words on purpose, format, and use.

The primary intent of this book is to serve as a rapid review of podiatric principles and serve as a study aid to improve performance on podiatric written and practical examinations. With this goal in mind, the text is written in rapid-fire, question/answer format. The student receives immediate gratification with a correct answer. Questions themselves often contain a "pearl" reinforced in association with the question/answer.

Additional hooks are often attached to the answer in various forms, including mnemonics, evoked visual imagery, repetition and humor. Additional information not requested in the question may be included in the answer. The same information is often sought in several different questions. Emphasis has been placed on evoking both trivia and key facts that are easily overlooked, are quickly forgotten, and yet somehow always seem to appear on podiatric exams.

Many questions have answers without explanations. This is done to enhance ease of reading and rate of learning. Explanations often occur in a later question/answer. It may happen that upon reading an answer the reader may think - "Hmm, why is that?" or, "Are you sure?" If this happens to you, GO CHECK! Truly assimilating these disparate facts into a framework of knowledge absolutely requires further reading in the surrounding concepts. Information learned, as a response to seeking an answer to a particular question is much better retained than that passively read. Take advantage of this. Use this book with your podiatric text handy and open, or, if you are reviewing on train, plane, or camelback, mark questions for further investigation.

*Podiatric Medicine and Surgery Part II National Board Review: Pearls of Wisdom* risks accuracy by aggressively pruning complex concepts down to the simplest kernel. The dynamic knowledge base and clinical practice of medicine is not like that! This text is designed to maximize your score on a test. Refer to your mentors for direction on current practice.

*Podiatric Medicine and Surgery Part II National Board Review: Pearls of Wisdom* is designed to be used, not just read. It is an interactive text. Use a 3x5 card and cover the answers; attempt all questions. A study method we strongly recommend is oral, group study, preferably over an extended meal or pitchers. The mechanics of this method are simple and no one ever appears stupid. One person holds the book, with answers covered, and reads the question. Each person, including the reader, says "Check!" when he or she has an answer in mind. After everyone has "checked" in, someone states his or her answer. If this answer is correct, on to the next one. If not, another person states his or her answer, or the answer can be read. Usually, the person who "checks" in first gets the first shot at stating the answer. If this person is being a smarty-pants answer-hog, then others can take turns. Try it—it's almost fun!

*Podiatric Medicine and Surgery Part II National Board Review: Pearls of Wisdom* is also designed to be re-used several times to allow, dare we use the word, memorization. I suggest putting a check mark in the hollow bullet provided when a question is missed. A hollow bullet has been arbitrarily provided. If you answer a question incorrectly again on re-uses of this book, forget this question! You will get it wrong on the exam! Another suggestion is to place a check mark when the question is answered correctly once; skip all questions with check marks thereafter. Utilize whatever scheme of using the bullets you prefer.

We welcome your comments, suggestions and criticism. Great effort has been made to verify these questions and answers. There will be answers we have provided that are at variance with the answer you would prefer. Most often this is attributable to the variance between original source (previously discussed). Please make us aware of any errata you find. We hope to make continuous improvements in future editions and would greatly appreciate any input with regard to format, organization, content, presentation, or about specific questions. Please write to Donald Kushner at [dkushner@ocpm.edu](mailto:dkushner@ocpm.edu). We look forward to hearing from you.

Study hard and good luck!

D.K.



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# ANESTHESIA

- ☐ Which level of anesthesia is considered surgical anesthesia?

Level III.

- ☐ There are four reflexes progressively lost in level III anesthesia. The third reflex lost in the progression is?

Thoracic muscular.

- ☐ While performing an Austin bunionectomy under General anesthesia, you over hear the Anesthesiologist mention that he/she is administering Reglan. What is this for?

Reduce gastric motility.

- ☐ Pediatric hypoglycemia is extremely dangerous! Pediatric patients have a very limited amount of glycogen stores, and therefore should always have what fluid running in their IV?

D5W.

- ☐ What are the effects of low serum calcium on the EKG?

With a wide QRS complex.

- ☐ What effect does Ketamine have on a patient?

Amnesia only.

- ☐ Fentanyl is used as what?

Narcotic analgesic.

- ☐ What drug has largely replaced Sodium Pentothal?

Diprivan.

- ☐ What is the first symptom of malignant hyperthermia?

Tachycardia.

- ☐ Describe the mechanism of breakdown for Esters & Amides.

Esters are hydrolyzed by pseudocholinesterase in plasma; amides are metabolized in the liver.

- ☐ What is the treatment for convulsions?

Valium.

**○ Describe a Mayo block.**

Local “ring” block of the 1<sup>st</sup> metatarsophalangeal joint.

**○ Describe MAC anesthesia.**

IV sedation with a local anesthesia block.

**○ How does local anesthesia provide pain relief?**

Prevents sodium migration through the nerve membrane, which prevents depolarization and causes inhibition of nerve conduction.

**○ What is the basic treatment for shock?**

Fluids, ABC’s, monitor vitals.

**○ The American Society of Anesthesiologists surgical risk classification system classifies “A healthy patient” as what class?**

Class I.

**○ List the complications associated with tourniquet use?**

Tissue necrosis, Inflammation, Paralysis, Thrombosis, Circulatory volume overload.

**○ A contraindication to Tourniquet use would be?**

Previous Popliteal- Dorsalis pedis bypass grafting. Sick cell disease is potentially a contraindication as well, because the tourniquet causes low oxygen tension which could cause cells to sickle.

**○ List the potential complications of Endotracheal Intubation?**

Sore throat, Tracheal edema, Croup, laceration, pneumothorax.

**○ When positioning a patient in the supine position during general anesthesia, the most common complication is?**

Ulnar nerve neuropathy.

**○ When positioning a patient in the prone position during general anesthesia, the most common complication is?**

Pressure on the orbit as well as the dorsum of the foot.

**○ During Spinal anesthesia, the space in the lumbar area of the spine into which the anesthetic is placed is the?**

Subarachnoid space, deep to the dura.

**○ Complications of spinal anesthesia include?**

Headache, Hypotension, Cauda equina syndrome, and infection.

- ☐ **What is the most common cause of temperature elevation intraoperatively?**

Malignant hyperthermia.

- ☐ **What medication is used to treat Malignant Hyperthermia?**

Dantrolene IV.

- ☐ **What type of allergic reaction is Anaphylaxis?**

A type I antibody mediated hypersensitivity reaction, seen immediately.

- ☐ **What are early signs of Anaphylaxis?**

Flush, difficulty in breathing, wheezing, stridor, laryngeal edema.

- ☐ **What is the treatment for Anaphylaxis?**

Epinephrine 0.3-0.5 ml sub Q of a 1:1,000 solution, along with antihistamines.

- ☐ **Describe the mechanism of action of local anesthetics.**

Local anesthetics prevent conduction of the nerve by decreasing sodium permeability thus increasing the excitation threshold.

- ☐ **What is the toxic dose of Lidocaine 1% plain?**

300mg (30ml).

- ☐ **What is the toxic dose of Lidocaine 1% with Epinephrine?**

500mg (50ml).

- ☐ **What is toxic dose of Bupivacaine 0.25% plain?**

175mg (70ml).

- ☐ **What is the toxic dose of Bupivacaine 0.25% with Epinephrine?**

225mg (90ml).

- ☐ **List four common Amide based local anesthetics.**

Lidocaine, Bupivacaine, Mepivacaine, and Etidocaine.

- ☐ **List four common ester based local anesthetics.**

Procaine, Tetracaine, Chlorprocaine, and hexylcaine.

- ☐ **When performing tendon transfer type procedures list the type of potential anesthesia that may be used.**

General, Spinal, and Epidural (because each of these modalities will temporarily eliminate lower extremity muscular activity).

- ☐ **What type of local block is most widely accepted when performing HAV surgery in a healthy patient?**

MAC with local Mayo block.

- ☐ **What nerve lies within the first intermetatarsal space?**

Deep peroneal.

- ☐ **What nerve lies anterior to the medial malleolus?**

Saphenous.

- ☐ **Cervical spine radiographs should be obtained on a patient with a history of ?**

Rheumatoid arthritis.

- ☐ **When using a high thigh tourniquet, which types of anesthesia would be unwise?**

MAC, and local types because the high thigh tourniquet causes too much discomfort and generally requires a general anesthetic.

- ☐ **The recommended pressure for a high thigh tourniquet is?**

200 mm Hg over systolic pressure due to the large soft tissue mass in the thigh.

- ☐ **During which stage of anesthesia would it be appropriate to elevate an extremity tourniquet?**

Stage II.

- ☐ **When comparing a spinal block to an epidural block which will allow greater control?**

Epidural block.

- ☐ **When a patient has just completed general anesthesia and is violently shaking as if cold, which medication will relieve these symptoms?**

Demerol.

- ☐ **On the morning of surgery a patient with non-insulin dependent diabetes, hypothyroidism, and hypertension should be told to take all of their medication except?**

They should not take their oral hypoglycemic because they have been NPO and could become severely hypoglycemic and go into insulin shock.

- ☐ **True or false - The toxic dose of local anesthetics is increased with the addition of epinephrine to the anesthetic.**

True. Epinephrine slows the absorption of the anesthetic and therefore allows more to be used.

- ☐ **Anesthesia is defined as?**

Loss of sensation with or without the loss of consciousness.

- ☐ **Factors that affect the concentration of a drug at a site of action, as a function of time is referred to as?**

Pharmacokinetics.

- ☐ **Succinylcholine is primarily used to achieve?**

Muscle relaxation through depolarization.

- ☐ **Succinylcholine can cause what adverse reactions?**

Fasciculations as well as hyperkalemia.

- ☐ **List a potential adverse reaction caused by the drug Toradol?**

It can cause a peptic ulcer.

- ☐ **Do ester type anesthetics have a higher or lower allergic potential than Amides?**

Higher.

- ☐ **The protein-binding characteristic of a drug will affect what?**

Duration of action.

- ☐ **Is eating within 6 hours prior to a general anesthetic a cause to cancel the surgery?**

Yes, due to the risk of regurgitation and aspiration.

- ☐ **During a local field block what sensation is lost first?**

Pain and temperature first, second is touch and motor.

- ☐ **A local field block injected into an infected area is less active because of what action?**

The acidic area of the infection converts the anesthetic chemically thus decreasing penetration into the cell membrane.

- ☐ **When performing an ankle block which nerves are blocked?**

Saphenous, Posterior Tibial, Sural, Superficial Peroneal, and Deep Peroneal.

- ☐ **When performing various types of anesthesia on pediatric patients what is the common concern during anesthesia?**

Hypothermia (temperature fluctuations).

- ☐ **What is the drug of choice to increase the threshold of convulsions during the intraoperative period?**

Valium.

- ☐ **What are the initial steps to perform once it is determined the patient is having a syncope reaction?**

Oxygen, Trendelenburg positioning, monitor vitals.

☐ **Wydase works by what action?**

Permitting a more rapid spread of solution into the area.

☐ **When using Halothane, what vasoconstrictive drug is contraindicated?**

Epinephrine.

☐ **What are the adverse effects of narcotics?**

Respiratory depression, emesis, and dependence.

☐ **Which inhalation agent is nonflammable?**

Halothane.

☐ **Esters are hydrolyzed in the \_\_\_\_\_?**

Plasma (higher allergic potential!).

☐ **Amides are metabolized in the \_\_\_\_\_?**

Liver.

☐ **What type of anesthesia causes the least interference with preexisting diseases?**

Regional nerve block.

☐ **During surgery if a patient becomes hyperkalemic what may you observe?**

Muscle weakness, cardiac conduction (EKG) changes.

☐ **Which has a greater duration of action Lidocaine or Marcaine?**

Marcaine.

☐ **What are the various etiologies of syncope?**

Syncope may be due to many etiologies including vasovagal, postural hypotension, chronic orthostatic hypotension, cardiac, carotid sinus, secondary to cerebrovascular disease, etc.



# ARTHROSCOPY

- **Portals should be separated as widely as possible, consistent with the anatomy, to avoid this?**

Skin necrosis due to the portals placed too close to each other.

- **If an instrument fails or breaks within the joint, what should be done immediately?**

Outflow of saline should be shut down while the inflow is left open to keep the joint distended for retrieval of the broken piece.

- **What anatomical structures are considered when making an anterolateral portal?**

Between the extensor digitorum longus and the superficial peroneal nerve.

- **When is the transmalleolar approach for lesions of the talus contraindicated?**

In children with open epiphyses.

- **What anatomical structures should be considered when making an anteromedial portal?**

Between the saphenous vein and the tibialis anterior tendon.

- **What is the most common size and angulation of an arthroscope used in an ankle?**

2.7 mm and 30 degrees or 0 degrees of angulation.

- **What is the minimum distance an accessory portal should be placed between the two working portals?**

At least 1 cm apart to avoid skin necrosis.

- **How would one confirm that the loose body seen on x-ray is intra-articular instead of intra-capsular or extra-articular?**

Perform an arthrogram, perhaps in combination with a CT or MRI.

- **In anterior soft tissue impingement of the ankle, pathology is generally limited to what?**

The syndesmosis and the lateral gutter.

- **When using the posterolateral approach, one should avoid what anatomical structures?**

Subcutaneous sural nerve or the short saphenous vein. Also avoid entering the STJ.

- **Transmalleolar portals are more often required on which side of the ankle joint and why?**

On the medial side because lateral dome lesions are more anterior than on the medial side, and because the lateral malleolus is further posterior than the medial malleolus.

**○ What are three basic joint surveying techniques in ankle arthroscopy?**

Scanning, pistoning, and rotating.

**○ Prior to beginning arthroscopy, which portal is developed first?**

The medial portal is developed first and the scope is placed in to survey the joint prior to lateral portal development.

**○ What are the contraindications for manual distraction and/or gravity distraction?**

Tight ankles, pathology not easily accessible, and prolonged procedures.

**○ What are the contraindications to the use of non-invasive distraction?**

Impaired circulatory status, diabetes, generalized medical conditions, ankle edema, or fragile skin.

**○ What are the contraindications to the use of skeletal distraction?**

Local or generalized infections, osteopenia, open epiphysis, and lax ligaments.

**○ What are some of the indications for the use of single heavy pin distraction (3/16 inch)?**

Large bone structure in males, long cases or difficult pathology, very tight ankles, ankle arthrodesis, etc.

**○ What are some advantages of double pin (7/64 inch) distraction?**

Better control, less stress riser than 3/16 inch, less chance of pin tract infection.

**○ What are the recommended parameters of force and duration for non-invasive distraction?**

20-25 lbs of force for about 30-45 minutes.

**○ What are the parameters for proximal pin placement in skeletal distraction?**

3/16 or 7/64 inserted 2 inches; 2 ¼ up to 4 inches above ankle joint usually from the lateral side.

**○ What are the three insertion sites for distal pin placement in skeletal distraction?**

Two in the calcaneus and one in the talus.

**○ How is the distal pin inserted in the calcaneus?**

It is inserted at a 20-25 degree downward slope so that when distraction occurs the pin will become parallel with the proximal pin.

**○ What size of pin is used in light double distraction mode?**

7/64 smooth pins.

**○ What size of pin is used in heavy single or double distraction?**

3/16 threaded pin.