# NBSTSA CSFA - Quiz Questions with Answers

## I. Perioperative Care



**1.**

For a patient with poor wound healing and a high risk of infection, what suture material is most appropriate for closing the skin?

**Nylon**

Catgut

Polyester

Silk

*Correct answer: Nylon*

*Nylon is the most appropriate suture material for patients with poor wound healing and a high risk of infection because it is non-absorbable and synthetic, causing minimal tissue reaction and a low risk of infection. Additionally, its smooth surface allows for easier removal and reduces the chances of bacterial colonization.*

*Catgut is absorbable and is more likely to cause inflammation. Polyester has a higher tissue reaction rate, potentially increasing the risk of impaired wound healing. Silk is known for its higher risk of infection and tissue reaction compared to nylon.*

**2.**

When opening a sterile package, what is the correct technique to ensure aseptic conditions are maintained?

**Open the first flap away from your body**

Use gloves to open the package

Open the package directly over the sterile field

Only open the package once fully scrubbed in

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*Correct answer: Open the first flap away from your body*

*The correct technique to ensure aseptic conditions are maintained when opening a sterile package is to open the first flap away from your body. This method helps prevent contamination by ensuring that the flap does not come into contact with your clothing or body, which could carry contaminants.*

*Using gloves to open the package is unnecessary if proper aseptic technique is followed. Opening the package directly over the sterile field increases the risk of contamination of the field and should be avoided. While it is essential to be scrubbed in for many sterile tasks, certain sterile packages are designed to be opened by non-sterile personnel using aseptic techniques, making it unnecessary to be fully scrubbed in before opening these packages.*

**3.**

Which factor is most important to monitor while a pneumatic tourniquet is in use during surgery?

**Tourniquet pressure and duration of application**

The strength of the patient’s pulse distal to the tourniquet

The difference between operating room temperature and the patient’s body temperature

The strength of the patient’s pulse proximal to the tourniquet

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*Correct answer: Tourniquet pressure and duration of application*

*The most important factors to monitor while a pneumatic tourniquet is in use during surgery are the tourniquet pressure and duration of application. These factors are critical to preventing tissue damage, nerve injury, and other complications associated with prolonged or excessive pressure.*

*Monitoring the presence rather than the strength of the patient’s pulse distal to the tourniquet is important but not as critical as ensuring proper pressure and timing. The difference between operating room temperature and the patient's body temperature is not relevant to tourniquet use. The strength of the patient’s pulse proximal to the tourniquet is less significant than monitoring pressure and duration, as these directly impact the safety and effectiveness of the tourniquet.*

**4.**

When assisting in a robotic prostatectomy, what is a key consideration for patient positioning?

**Ensuring the patient is in the Trendelenburg position**

Placing the patient in a sitting position

Keeping the patient in a lateral decubitus position

Maintaining the patient in the prone position

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*Correct answer: Ensuring the patient is in the Trendelenburg position*

*Ensuring the patient is in the Trendelenburg position is critical for robotic prostatectomy, providing optimal access to the pelvic area and facilitating the effective use of robotic instruments during the procedure. This position tilts the patient's body so that the pelvis is higher than the head, which improves visualization and access to the prostate.*

*A sitting position is unsuitable for prostatectomies due to inadequate surgical access. The lateral decubitus position is used for different types of surgeries, such as thoracic or renal, and does not provide the necessary orientation for prostate surgery. The prone position does not provide the necessary access to the pelvic area for this procedure.*

**5.**

When handling and disposing of contaminated surgical drapes, which procedure ensures compliance with Standard Precautions?

**Place the drapes in a leak-proof biohazard bag.**

Fold the drapes and place them in a linen hamper.

Rinse the drapes before discarding them.

Leave the drapes on the operating room floor for environmental services to handle.

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*Correct answer: Place the drapes in a leak-proof biohazard bag.*

*To ensure compliance with Standard Precautions when handling and disposing of contaminated surgical drapes, they should be placed in a leak-proof biohazard bag. These bags are designed to safely contain items contaminated with bodily fluids and other potentially infectious materials, preventing the spread of contaminants and ensuring proper handling and disposal in accordance with health and safety regulations.*

*A linen hamper does not provide adequate containment for biohazardous materials and can lead to the spread of infectious agents. Rinsing the drapes can spread contaminants and does not eliminate the risk of infection. Leaving the drapes for environmental services delays proper disposal and increases the risk of contamination.*

**6.**

In a patient undergoing orthopedic surgery, what type of drain is best for minimizing dead space and preventing hematoma formation?

**Hemovac drain**

Penrose drain

Nasogastric tube

T-tube drain

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*Correct answer: Hemovac drain*

*For orthopedic surgeries, the Hemovac drain is the best choice to minimize dead space and prevent hematoma formation. Its vacuum mechanism efficiently removes fluids and blood, reducing the risk of postoperative complications and promoting better healing.*

*The Penrose drain is an open system and fails to effectively manage dead space and hematoma risks. The nasogastric tube is not relevant in this context, as it serves to provide access to the gastrointestinal tract, not to prevent hematoma formation. The T-tube drain is used to facilitate biliary drainage, making it unsuitable for orthopedic surgical use.*

**7.**

During an operation, a piece of equipment that has been sterilized is accidentally dropped on the floor. What should be the next step?

**Replace it with a sterile backup**

Wipe the equipment with a sterile cloth and continue using it

Re-sterilize the equipment using a quick chemical method

Inspect the equipment for visible contamination before deciding how to proceed

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*Correct answer: Replace it with a sterile backup*

*Replacing it with a sterile backup ensures the equipment used remains sterile, preventing any risk of contamination during the procedure. This method is the most reliable and efficient way to maintain the necessary sterile environment in the operating room.*

*Wiping the equipment with a sterile cloth does not effectively re-sterilize it and poses a risk of contamination. Re-sterilizing the equipment using a quick chemical method may not be as effective or practical during surgery. Inspecting the equipment for visible contamination does not guarantee sterility and is insufficient for ensuring patient safety.*

**8.**

In a minimally invasive laparoscopic procedure, how does the surgical team ensure optimal visualization of the surgical field?

**Maintaining adequate insufflation pressure**

Using a large retractor

Continuously irrigating the surgical site

Applying external manual pressure

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*Correct answer: Maintaining adequate insufflation pressure*

*Maintaining adequate insufflation pressure is vital in minimally invasive laparoscopic procedures to ensure optimal visualization by expanding the abdominal cavity and creating the necessary space for clear sightlines.*

*Using a large retractor is counterproductive in minimally invasive surgeries and can hinder visualization. Continuous irrigation might obscure the field with excess fluid. External manual pressure can distort the surgical site and impede clear visualization.*

**9.**

During a laparoscopic surgery, the surgeon asks you to assist in securing a bleeding vessel. Which of the following steps should you take?

**Use a clip applier to clamp and secure the vessel**

Apply direct pressure with a gauze pad

Use an ultrasonic scalpel to coagulate the vessel

Irrigate the area with saline to clear the field

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*Correct answer: Use a clip applier to clamp and secure the vessel*

*Out of these options, the best approach during laparoscopic surgery for controlling a bleeding vessel is to use a clip applier to clamp and secure the vessel. This method is effective, minimally invasive, and ensures the bleeding is stopped efficiently with minimal risk to surrounding tissues.*

*Applying direct pressure with a gauze pad is impractical in laparoscopic settings. Using an ultrasonic scalpel is not suitable for this specific purpose, as it is designed for cutting and coagulation rather than vessel clamping. Irrigating the area with saline helps clear the field but does not address the bleeding directly.*

**10.**

Which of the following is the most crucial step to ensure the readiness of surgical instruments before a procedure begins?

**Confirming the integrity of instrument packaging**

Reviewing the patient’s medical history for metal allergies

Ensuring that the surgery has been scheduled correctly

Confirming that the surgeon is aware of the instruments needed

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*Correct answer: Confirming the integrity of instrument packaging*

*Confirming the integrity of instrument packaging is crucial because it ensures sterility and prevents contamination, which is paramount for patient safety during surgery. This verification guarantees that all instruments are in proper condition for use, reducing the risk of infection.*

*Reviewing the patient's medical history for metal allergies, scheduling accuracy, and the surgeon's awareness of needed instruments are all important but do not directly relate to the readiness and sterility of the surgical tools. The readiness of instruments focuses on their physical and sterile state, which is ensured by checking the integrity of their packaging.*

## 11.

When preparing an irrigation solution for a contaminated wound, which solution is most commonly used?

**Normal saline**

Hydrogen peroxide

Sterile water

Alcohol

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*Correct answer: Normal saline*

*Normal saline is the most commonly used solution for irrigating contaminated wounds because it is isotonic and effectively cleanses without causing tissue irritation or disruption. Its isotonic nature means it matches the body's natural osmotic balance, making it gentle yet effective in removing debris and bacteria from the wound site, which aids in proper wound healing.*

*Hydrogen peroxide can damage healthy tissue and delay healing despite its debris-removal capabilities. Sterile water, while free of contaminants, lacks isotonic properties and can cause cellular irritation. Alcohol is highly irritating and damaging to tissues, making it unsuitable for direct wound care.*

**12.**

When assisting with a Rummel tourniquet application, what material is commonly used to facilitate the tightening of the tourniquet?

**Umbilical tape**

Silk suture

Metal clamp

Any ligature-type material

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*Correct answer: Umbilical tape*

*Umbilical tape is commonly used in a Rummel tourniquet application because it provides the necessary strength, flexibility, and ease of secure tying needed to control bleeding effectively. This material is ideal for achieving the precise tightening required in such surgical procedures.*

*A silk suture is not used for this application as it lacks the appropriate strength and flexibility compared to umbilical tape. A metal clamp, while useful for other surgical tasks, is not appropriate for tightening a Rummel tourniquet. Choosing any ligature-type material is too vague and incorrect, as umbilical tape is the preferred choice.*

**13.**

During a laparoscopic bowel resection, the surgeon requests assistance with an end-to-end anastomosis. Which stapling device is typically used for this procedure?

**Circular stapler**

Linear cutter stapler

Skin stapler

Vascular stapler

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*Correct answer: Circular stapler*

*A circular stapler is specifically designed for creating end-to-end anastomosis in gastrointestinal surgeries, such as a laparoscopic bowel resection. It ensures a secure and efficient closure.*

*The linear cutter stapler, while useful in other contexts, is not suitable for circular anastomoses, as it is designed for cutting and stapling linear sections of tissue. Skin staplers are intended for external skin closure and are not appropriate for internal gastrointestinal procedures. Vascular staplers are tailored for vascular surgeries and are not suitable for gastrointestinal anastomosis.*

**14.**

Which monitoring technique is most essential for detecting early signs of hypovolemia in a patient undergoing major surgery?

**Continuous blood pressure monitoring**

Pulse oximetry

Capnography

Electrocardiography

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*Correct answer: Continuous blood pressure monitoring*

*Continuous blood pressure monitoring is essential for detecting early signs of hypovolemia because it provides real-time data on blood pressure changes, which are critical indicators of blood volume status. This allows for immediate intervention if blood pressure drops, preventing further complications.*

*Pulse oximetry measures oxygen saturation but does not provide direct information about blood volume or pressure, making it less useful for detecting hypovolemia. Capnography measures the concentration of carbon dioxide in exhaled air, which is useful for assessing ventilation but not blood volume. Electrocardiography monitors heart electrical activity and can detect arrhythmias but does not provide information about blood volume or pressure.*

**15.**

What is the most appropriate duration for performing a surgical hand scrub to ensure proper asepsis?

**Five minutes**

Two minutes

10 minutes

15 minutes

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*Correct answer: Five minutes*

*The most appropriate duration for performing a surgical hand scrub to ensure proper asepsis is five minutes. This duration is standard and ensures that the hands and forearms are thoroughly cleaned, reducing the risk of contamination during surgery.*

*A two-minute scrub is generally insufficient for achieving thorough asepsis. Scrubbing for 10 or 15 minutes is excessively long and not necessary for ensuring asepsis, potentially leading to skin irritation without additional benefits in reducing infection risks.*

**16.**

What is the initial step when preparing to remove sutures from a healed surgical incision?

**Assess the wound for signs of infection or dehiscence**

Clean the area with an antiseptic solution

Administer a prophylactic oral pain medication

Educate the patient on the suture removal process

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*Correct answer: Assess the wound for signs of infection or dehiscence*

*Assessing the wound for signs of infection or dehiscence is the crucial first step when preparing to remove sutures from a healed surgical incision. This ensures that the wound is properly healed and not exhibiting signs of complications such as infection or separation of the wound edges, which could complicate or contraindicate the removal of sutures.*

*Cleaning the wound without first assessing its condition could result in overlooking potential complications. Pain management should be addressed if necessary after confirming the wound is ready for suture removal. Patient education is essential but should come after ensuring the wound is in a suitable state for the procedure.*

**17.**

During a surgical procedure, which of the following is a key consideration to ensure the appropriate use of hemostatic agents?

**Always verifying expiration dates**

Always mixing the agents with saline before use

Applying them directly to the skin incision

Always storing them at room temperature

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*Correct answer: Always verifying expiration dates*

*Always verifying expiration dates is key to ensuring the effectiveness and safety of hemostatic agents during surgery, as expired products may not function properly and could lead to complications.*

*Mixing hemostatic agents with saline before use is not a universal requirement and depends on the specific product instructions. Hemostatic agents are typically applied directly to the site of bleeding, not the skin incision. Storage requirements for hemostatic agents vary; while some need to be stored at room temperature, others may have different requirements.*

**18.**

To minimize the risk of electrical burns during surgery, which precaution should be taken with the electrosurgical unit?

**Ensuring the grounding pad is properly placed**

Positioning the electrosurgical unit close to the surgical site

Using high settings on the electrosurgical unit to shorten operation time

Unplug the electrosurgical unit whenever it is not being used

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*Correct answer: Ensuring the grounding pad is properly placed*

*Ensuring the grounding pad is properly placed is the most important precaution to minimize the risk of electrical burns during surgery. Proper placement of the grounding pad ensures that the electrical current has a safe path to exit the body, reducing the risk of burns.*

*Positioning the electrosurgical unit close to the surgical site does not directly prevent electrical burns and can introduce other risks. Using high settings on the electrosurgical unit can increase the likelihood of burns, so this approach should be avoided. Unplugging the unit when not in use is not a practical or effective measure to prevent electrical burns; the focus should be on ensuring proper grounding and safe operation during use.*

**19.**

During a laparoscopic cholecystectomy, what is the primary reason for placing the patient in the reverse Trendelenburg position?

**To enhance visualization of the gallbladder**

To decrease abdominal pressure

To facilitate the insertion of trocars

To reduce the risk of pneumothorax

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*Correct answer: To enhance visualization of the gallbladder*

*During a laparoscopic cholecystectomy, the primary reason for placing the patient in the reverse Trendelenburg position is to enhance visualization of the gallbladder. This position helps to move the abdominal organs downward, away from the surgical site, providing better access and visibility for the surgeon.*

*Decreasing abdominal pressure, facilitating the insertion of trocars, and reducing the risk of pneumothorax are not the main reasons for using the reverse Trendelenburg position. The primary rationale is to improve the surgeon's ability to see and access the gallbladder effectively during the procedure.*

**20.**

If a surgical first assistant notices a breach in sterile technique by a member of the surgical team, what should be the immediate course of action?

**Address the breach immediately to maintain sterility**

Inform the team member of the breach privately after the surgery

Discreetly repair the breach themselves, then talk with the team member afterward

Complete an incident report after the procedure

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*Correct answer: Address the breach immediately to maintain sterility*

*If a surgical first assistant notices a breach in sterile technique by a member of the surgical team, the immediate course of action should be to address the breach immediately to maintain sterility. Promptly addressing the issue is crucial to prevent contamination and ensure patient safety during the procedure.*

*Informing the team member of the breach privately after the surgery does not rectify the breach and allows potential contamination to continue. Discreetly repairing the breach themselves without informing the team may not effectively address the breach and fails to educate the team member on the issue. Completing an incident report after the procedure could be relevant but does not address the immediate need to maintain sterility during surgery.*

**21.**

During a craniotomy, the surgeon asks you to ensure clear visibility by removing blood and fluids from the surgical field. Which suction device is most appropriate for this task?

**Frazier suction**

Yankauer suction

Poole suction

Suction should not be used for this task

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*Correct answer: Frazier suction*

*During a craniotomy, the Frazier suction device is most appropriate for ensuring clear visibility by removing blood and fluids from the surgical field. It is designed for precise and controlled removal of blood and fluids, which is essential in such delicate procedures.*

*Other devices, like the Yankauer suction and Poole suction, are not suitable for this task. The Yankauer suction is more suited for general suctioning in the mouth or throat, while the Poole suction is used for suctioning large amounts of fluid in abdominal surgeries. Suction should indeed be used for maintaining clear visibility during a craniotomy.*

## 22.

During a laparoscopic appendectomy, which technique is preferred for dissecting the mesoappendix?

**Electrocautery**

Sharp dissection with a scalpel

Blunt dissection with fingers

Ultrasonic scalpel

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*Correct answer: Electrocautery*

*Electrocautery is preferred for dissecting the mesoappendix as it allows for precise dissection and simultaneous hemostasis, reducing the risk of bleeding. This technique provides controlled and effective tissue separation while maintaining a clear surgical field.*

*Sharp dissection with a scalpel can increase the risk of bleeding and is less controlled compared to electrocautery. Blunt dissection with fingers is not precise and can lead to inadequate dissection and increased trauma. While an ultrasonic scalpel can be used, electrocautery is more commonly preferred for its ability to provide both cutting and coagulation.*

**23.**

During a colorectal surgery, the surgeon asks for assistance in clamping and tying the mesenteric vessels. What technique should you employ?

**Use a hemostat to clamp and then tie with a silk suture**

Apply a vascular stapler for both clamping and cutting

Use a harmonic scalpel to seal the vessels

Pack the area with an absorbable hemostatic agent

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*Correct answer: Use a hemostat to clamp and then tie with a silk suture*

*The correct technique for clamping and tying mesenteric vessels during colorectal surgery is to use a hemostat to clamp the vessels and then tie them with a silk suture. This method provides reliable and secure hemostasis.*

*Using a vascular stapler is not appropriate, as it is designed for different surgical tasks. A harmonic scalpel does not offer the same level of control as clamping and tying vessels. Packing the area with an absorbable hemostatic agent can help control minor bleeding but does not replace the need for secure vessel ligation.*

**24.**

During a coronary artery bypass grafting procedure, which instrument is typically passed to the surgeon to remove the internal mammary artery from the chest wall?

**Metzenbaum scissors**

Mayo scissors

DeBakey forceps

Senn retractor

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*Correct answer: Metzenbaum scissors*

*Metzenbaum scissors are typically passed to the surgeon for removing the internal mammary artery because they are designed for delicate dissection and cutting of fine tissues. This makes them ideal for the precise work needed in coronary artery bypass grafting procedures.*

*Mayo scissors are generally used for cutting heavier tissues and are not suited for the delicate dissection required in removing the internal mammary artery. DeBakey forceps are used for grasping and holding tissues, not for cutting or dissecting. Senn retractors are used for holding back tissues and are not suitable for the removal of the internal mammary artery.*

**25.**

During a minimally invasive colectomy, what is the role of the surgical assistant in instrument exchange?

**Facilitating smooth instrument exchanges through the ports**

Providing manual retraction of tissues

Controlling the insufflation pressure

Closing the skin incisions

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*Correct answer: Facilitating smooth instrument exchanges through the ports*

*Facilitating smooth instrument exchanges through the ports is essential in minimally invasive colectomies to ensure efficiency and maintain the sterile field. This role is crucial as it helps to minimize disruptions during the procedure and supports the surgeon's workflow.*

*Providing manual retraction of tissues is not typically an important consideration during endoscopic procedures. Controlling the insufflation pressure is usually handled by the anesthesiologist or a dedicated technician, not the surgical assistant. Closing the skin incisions is a task performed at the end of the procedure and does not represent the primary role of the assistant relating to instrument exchange during the surgery.*

**26.**

In an open abdominal procedure, the surgeon instructs you to clamp a section of the bowel. What instrument is best used for this task?

**Doyen intestinal clamp**

Babcock clamp

Hemostat

Allis forceps

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*Correct answer: Doyen intestinal clamp*

*The Doyen intestinal clamp is the correct instrument to use for clamping a section of the bowel in an open abdominal procedure. It is specifically designed to handle bowel tissue gently and securely without causing trauma.*

*The Babcock clamp, while useful for grasping, is not designed for clamping. Hemostats are intended for smaller vessels and not for the larger, delicate bowel tissue. Allis forceps are not appropriate for this task as they are used for grasping, not clamping.*

**27.**

Which step is most important when applying antiembolic stockings to a surgical patient?

**Ensuring there are no wrinkles in the stockings**

Applying the stockings only after the patient has been anesthetized

Selecting a size that based on patient comfort

Removing the stockings immediately after surgery

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*Correct answer: Ensuring there are no wrinkles in the stockings*

*The most important step when applying antiembolic stockings to a surgical patient is ensuring there are no wrinkles in the stockings. Wrinkles can create pressure points that can lead to skin irritation and compromised circulation, reducing the effectiveness of the stockings in preventing embolism.*

*Applying the stockings only after the patient has been anesthetized is not advisable, as they should be applied before anesthesia to ensure a proper fit and effectiveness. Selecting a size based on patient comfort alone is insufficient; the stockings must be properly measured to ensure they provide the necessary compression. Removing the stockings immediately after surgery is not recommended as they need to remain in place postoperatively to prevent embolism until the patient is fully ambulatory.*

**28.**

In a laparoscopic procedure, the surgeon encounters excess fluid accumulation. Which suction technique should be employed to maintain a clear surgical field?

**Intermittent suction with an endoscopic suction-irrigator**

Continuous gentle suction with a Yankauer tip

Manual removal with a bulb syringe

Gentle suctioning with a Frazier tip

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*Correct answer: Intermittent suction with an endoscopic suction-irrigator*

*In a laparoscopic procedure encountering excess fluid accumulation, the appropriate suction technique is intermittent suction with an endoscopic suction-irrigator. This method allows for effective fluid removal while maintaining visibility, which is crucial in such procedures.*

*The Yankauer tip does not provide the necessary control when applying suction and cannot typically be used in a laparoscopic procedure. A bulb syringe is inefficient for large fluid volumes and is not used in laparoscopic procedures. A Frazier tip is designed for more delicate and localized suctioning.*

**29.**

During a procedure, the patient’s blood pressure suddenly drops and the surgical site begins to ooze a large amount of dark blood. What is the most appropriate immediate action?

**Alert the anesthesiologist and increase intravenous fluids**

Apply a tourniquet above the surgical site

Raise the patient's legs to increase venous return

Stop the procedure and prepare for cardiopulmonary resuscitation

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*Correct answer: Alert the anesthesiologist and increase intravenous fluids*

*Alerting the anesthesiologist and increasing intravenous fluids is crucial in this scenario because it addresses the potential hypovolemia or shock by increasing blood volume and pressure. Immediate communication with the anesthesiologist ensures coordinated care to stabilize the patient quickly and effectively.*

*Applying a tourniquet above the surgical site is not appropriate as it is typically used for limb surgeries and can cause further complications. Raising the patient's legs might help increase venous return but is insufficient as immediate fluid resuscitation is likely essential in this situation. Stopping the procedure and preparing for cardiopulmonary resuscitation (CPR) is premature unless there are signs of cardiac arrest; immediate fluid resuscitation is a more appropriate first step.*

**30.**

Which retractor is most suitable for providing exposure during an abdominal aortic aneurysm repair?

**Balfour retractor**

Weitlaner retractor

Senn retractor

Richardson retractor

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*Correct answer: Balfour retractor*

*The Balfour retractor is most suited for providing exposure during an abdominal aortic aneurysm repair because it offers deep and wide retraction, allowing for excellent visualization of the abdominal cavity. This is important for the intricate and extensive nature of this procedure.*

*The Weitlaner retractor is more suitable for superficial and smaller incisions, not for the deep exposure required in this surgery. The Senn retractor is used for smaller, superficial procedures and does not provide the necessary depth. The Richardson retractor, while useful for deep retraction, is not as effective as the Balfour retractor for the extensive exposure needed in abdominal aortic aneurysm repair.*

**31.**

When performing subcutaneous closure, which suture material is most appropriate to minimize tissue reaction and promote absorption?

**Vicryl**

Silk

Nylon

Stainless steel wire

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*Correct answer: Vicryl*

*Vicryl is the best choice for subcutaneous closure because it is a synthetic absorbable suture that causes minimal tissue reaction and is absorbed by the body over time, promoting healing. This reduces the risk of chronic inflammation and foreign body reactions, making it optimal for this purpose.*

*Silk is not suitable for subcutaneous closure as it is non-absorbable and tends to provoke a more significant tissue reaction. Nylon is also non-absorbable and is primarily used for skin closure rather than subcutaneous tissue. Stainless steel wire is highly reactive and not appropriate for subcutaneous closures due to its lack of absorption and potential to cause considerable tissue irritation.*

**32.**

During a prolonged surgery, multiple sponges are used to pack and control bleeding in the surgical field. What is the primary concern related to this practice?

**Sponge retention**

Excessive absorption of fluids by the sponges

Compression of surrounding organs by the sponges

Difficulty in achieving hemostasis

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*Correct answer: Sponge retention*

*The primary concern related to the use of multiple sponges during prolonged surgery is sponge retention. Retained sponges can cause serious complications, including infection and the need for additional surgeries. Proper counting and documentation of sponges are essential to prevent this risk.*

*Excessive absorption of fluids by sponges, compression of surrounding organs, and difficulty in achieving hemostasis are also potential concerns, but they are less critical compared to the risk of retained sponges. While these factors can impact surgical outcomes, preventing sponge retention is the most important consideration to ensure patient safety.*

**33.**

During a laparotomy, the surgeon asks you to irrigate the surgical wound. What is the primary purpose of this action?

**To remove debris and reduce bacterial load**

To cool down the surgical tissues

To inflate the surgical cavity

To decrease inflammation caused by wound closure

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*Correct answer: To remove debris and reduce bacterial load*

*Removing debris and reducing bacterial load is the primary goal of irrigation during a laparotomy to ensure a clean surgical field, thereby reducing the risk of postoperative infections and promoting optimal healing.*

*Cooling down tissues is not necessary during a laparotomy and is not the purpose of irrigation. Inflating the cavity is not the purpose of irrigation and is not related to a laparotomy. Reducing inflammation from wound closure is not directly addressed by irrigation.*

**34.**

Which maneuver is most appropriate to improve exposure of the gallbladder during a cholecystectomy?

**Applying traction to the fundus of the gallbladder**

Placing the patient in the Trendelenburg position

Using a Babcock forceps to grasp the common bile duct

Applying counter-traction to the liver

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*Correct answer: Applying traction to the fundus of the gallbladder*

*Applying traction to the fundus of the gallbladder is most appropriate because it helps to elevate and expose the gallbladder, making dissection around it easier and safer. This maneuver directly improves visualization and access to the gallbladder.*

*Placing the patient in the Trendelenburg position is not typically used for this purpose; a reverse Trendelenburg position may be more helpful. Using a Babcock forceps to grasp the common bile duct is inappropriate and risks damage. Applying counter-traction to the liver would not be as effective as direct traction on the gallbladder.*

**35.**

When assisting in a thyroidectomy, which instrument is most appropriate for providing traction on the thyroid gland without causing tissue damage?

**Babcock forceps**

Lahey tenaculum

Allis clamp

Kocher clamp

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*Correct answer: Babcock forceps*

*Babcock forceps are most appropriate for providing traction on the thyroid gland without causing tissue damage due to their atraumatic design. This ensures that the delicate thyroid tissue is handled gently, reducing the risk of complications.*

*The Lahey tenaculum, while potentially used for holding and manipulating tissues during surgery on the thyroid, can cause more tissue trauma compared to Babcock forceps. Allis clamps have teeth that can damage the delicate thyroid tissue, making them less ideal for this purpose. Kocher clamps, used for grasping tougher tissues, can cause significant damage to the thyroid gland due to its delicate nature.*

**36.**

During a debridement procedure, which instrument is typically used to remove necrotic tissue?

**Scalpel**

Hemostat

Metzenbaum scissors

Adson forceps

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*Correct answer: Scalpel*

*A scalpel is the instrument typically used to remove necrotic tissue during a debridement procedure. It allows for precise cutting and removal of dead tissue, which is essential for effective debridement.*

*A hemostat is designed for clamping blood vessels and lacks the precision needed for debridement.*

*Metzenbaum scissors, though used for cutting delicate tissue, are not suitable for removing necrotic tissue.*

*Adson forceps are used to grasp tissue but do not have the capability to excise necrotic tissue effectively.*

**37.**

In a pediatric surgery, the surgeon needs to close the skin with minimal scarring. Which method is preferred?

**Subcuticular sutures with absorbable material**

Interrupted silk sutures

Staples

Nylon sutures

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*Correct answer: Subcuticular sutures with absorbable material*

*Subcuticular sutures with absorbable material are the preferred method for pediatric skin closure because they reduce scarring and trauma. These sutures are placed under the skin, where they support healing and dissolve naturally, avoiding the need for removal and minimizing cosmetic concerns.*

*Interrupted silk sutures can increase scarring. They also require removal, which can be distressing for children and should be avoided if possible. Staples, while quick to apply, leave more noticeable scars, making them less ideal for cosmetic outcomes. Nylon sutures also necessitate removal, causing additional discomfort and potential scarring.*

**38.**

What is the primary purpose of using a self-retaining retractor during abdominal surgery?

**To provide continuous exposure of the operative site**

To maintain a sterile field

To reduce postoperative pain

To minimize tissue injury

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*Correct answer: To provide continuous exposure of the operative site*

*The primary purpose of using a self-retaining retractor during abdominal surgery is to provide continuous exposure of the operative site. This allows the surgeon to work efficiently without needing to manually hold the retractor, facilitating a smoother surgical process.*

*The self-retaining retractor's main role is to keep the surgical site open, not to maintain a sterile field. The retractor is not directly involved in reducing postoperative pain and may contribute to increased postoperative pain in some situations. Minimizing tissue injury is important, but it is not the purpose of the self-retaining retractor.*

**39.**

Which of the following actions is essential to ensure the proper functioning of a wound Vacuum-Assisted Closure (VAC) device immediately after application?

**Ensuring an airtight seal around the dressing**

Applying heat to the wound area

Keeping the dressing moist with saline

Removing the device at least once every two hours to avoid tissue ischemia

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*Correct answer: Ensuring an airtight seal around the dressing*

*Ensuring an airtight seal around the dressing is crucial for the proper functioning of a wound VAC device immediately after application. This seal allows the device to maintain the necessary negative pressure, which is essential for removing excess fluid from the wound, reducing edema, and promoting wound healing effectively.*

*Applying heat to the wound area is not a standard practice and does not contribute to the function of a wound VAC device; it might even cause harm by damaging tissues or increasing swelling.*

*Keeping the dressing moist with saline is also not relevant, as the VAC system relies on negative pressure rather than moisture.*

*Moreover, removing the device every two hours would disrupt the continuous negative pressure required for effective wound healing and would not be recommended.*

**40.**

During a Coronary Artery Bypass Graft (CABG) procedure, the surgeon asks for assistance in harvesting the saphenous vein. Which initial step is crucial for this process?

**Incising the skin over the medial aspect of the leg**

Clamping the femoral artery

Applying a tourniquet to the upper thigh

Injecting heparin into the vein

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*Correct answer: Incising the skin over the medial aspect of the leg*

*The crucial initial step in harvesting the saphenous vein during a Coronary Artery Bypass Graft (CABG) procedure is incising the skin over the medial aspect of the leg. This step provides the necessary access to the vein for the surgeon to perform the grafting process efficiently.*

*Clamping the femoral artery is not related to saphenous vein harvesting. A tourniquet is unnecessary and could restrict blood flow improperly, potentially leading to tissue necrosis. Injecting heparin is a later step done to prevent clotting and is not part of the initial harvesting procedure.*

**41.**

During a vascular surgery, the surgeon encounters a bleeding vessel. What is the most immediate action to control the bleeding?

**Apply direct pressure with a sterile gauze pad**

Use a suture to ligate the vessel

Apply a tourniquet above the bleeding site

Use an electrocautery device

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*Correct answer: Apply direct pressure with a sterile gauze pad*

*Applying direct pressure with a sterile gauze pad is the most immediate action to control the bleeding as it temporarily stops the blood flow, allowing the surgeon time to plan a more definitive method of hemostasis.*

*Using a suture to ligate the vessel is a definitive solution but not the immediate first step. Applying a tourniquet above the bleeding site is not typically used in controlled surgical settings and can cause ischemia. Using an electrocautery device is effective but may not be the immediate first step when compared to direct pressure.*

**42.**

When closing the fascia, what is an important consideration to ensure proper wound healing?

**Ensuring the suture is placed at equal distances to distribute tension evenly**

Using the smallest possible suture material

Placing sutures only at the corners of the wound

Applying high tension to each suture to ensure tight closure

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*Correct answer: Ensuring the suture is placed at equal distances to distribute tension evenly*

*When closing the fascia, it is crucial to ensure sutures are placed at equal distances to distribute tension evenly. This practice reduces the risk of tissue ischemia and promotes effective wound healing by ensuring consistent support along the wound.*

*Using the smallest possible suture material might reduce tissue reaction but may lack the necessary strength for fascia closure, increasing the risk of wound dehiscence. Placing sutures only at the corners of the wound is insufficient for securing the fascia and fails to distribute tension evenly. Applying high tension to each suture can cause tissue damage and ischemia, leading to poor healing outcomes.*

**43.**

Which of the following is a critical consideration when closing the skin with staples?

**Ensuring equal spacing to promote uniform healing**

Using only nonmagnetic staples

Applying maximum tension to the staples

Choosing absorbable staple materials

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*Correct answer: Ensuring equal spacing to promote uniform healing*

*Ensuring equal spacing is critical when closing the skin with staples to promote uniform healing and minimize the risk of complications such as scarring or improper wound healing.*

*The magnetic properties of staples are generally not a consideration in skin closure, as standard staples are typically used. Applying maximum tension to staples can damage the tissue and impede proper healing, making it an incorrect approach. Absorbable staples are not commonly used in skin closure; the more critical consideration is proper spacing, not the material.*

**44.**

What is the primary reason for monitoring the amount of irrigation solution used during surgery?

**To prevent fluid overload**

To minimize the cost of supplies

To keep the surgical field as dry as possible

To reduce the risk of infection

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*Correct answer: To prevent fluid overload*

*Monitoring the amount of irrigation solution used during surgery is crucial primarily to prevent fluid overload. This condition can cause severe complications, including pulmonary edema and heart failure. Ensuring that the patient's fluid balance remains within safe limits, their overall health and well-being are prioritized.*

*Minimizing the cost of supplies, although beneficial, is secondary to patient safety considerations. Keeping the surgical field dry is important for visibility and effectiveness but does not outweigh the need to prevent fluid overload. Reducing the risk of infection is managed through sterile techniques and appropriate antibiotic use, not by the volume of irrigation solution monitored.*

**45.**

During an open cholecystectomy, the surgeon asks for a tool to achieve hemostasis of the cystic artery. Which instrument should you provide?

**Electrocautery**

Hemostatic clamp

Suture ligature

Gel foam

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*Correct answer: Electrocautery*

*Electrocautery is often used to achieve hemostasis of the cystic artery because it provides effective coagulation and minimizes bleeding. This tool allows the surgeon to quickly and efficiently control bleeding during the procedure.*

*A hemostatic clamp can control bleeding temporarily but does not achieve definitive hemostasis.*

*Suture ligature is effective but is typically used after electrocautery to ensure hemostasis.*

*Gel foam is used to control bleeding in areas where mechanical methods are less effective and is not typically used for the cystic artery.*

**46.**

Which technique is essential to minimize the risk of infection during the insertion of a Foley catheter?

**Using sterile technique and maintaining asepsis throughout the procedure.**

Inserting the catheter with a sterile lubricant to reduce contamination.

Positioning the drainage bag below the level of the bladder.

Maintaining strict asepsis during the procedure until the catheter is ready for insertion.

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*Correct answer: Using sterile technique and maintaining asepsis throughout the procedure.*

*The essential technique to minimize the risk of infection during the insertion of a Foley catheter is using sterile technique and maintaining asepsis throughout the procedure. This comprehensive approach ensures that no pathogens are introduced during the catheterization, significantly reducing the risk of infection.*

*Inserting the catheter with a sterile lubricant is necessary but does not encompass the entire scope of aseptic technique. Positioning the drainage bag below the level of the bladder is crucial for proper drainage but does not directly impact infection control. Maintaining asepsis only until the catheter is ready for insertion is inadequate, as asepsis must be upheld throughout the entire process to effectively prevent infection.*

**47.**

For skin graft preparation, what technique is used to increase the surface area of the graft?

**Meshing the graft**

Stretching the graft manually

Layering the grafts

Culturing the graft

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*Correct answer: Meshing the graft*

*Meshing the graft is the technique used to increase the surface area of the graft by creating small incisions, allowing it to expand and cover larger wound areas. This method also enhances the graft's conformity to the wound site, promoting better healing.*

*Stretching the graft manually can damage the tissue and does not provide a controlled increase in surface area. Layering grafts increases thickness rather than surface area. Culturing is a method for growing cells and does not mechanically expand a skin graft.*

**48.**

What is the best practice for a surgical first assistant when handling a specimen for pathological examination during surgery?

**Label the specimen container before passing it off the sterile field**

Pass the specimen off the field for the surgical technologist to label

Leave the specimen on the sterile field until the surgeon labels it

Leave the specimen on the sterile field until the end of the procedure

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*Correct answer: Label the specimen container before passing it off the sterile field*

*The best practice for a surgical first assistant when handling a specimen for pathological examination during surgery is to label the specimen container before passing it off the sterile field. This practice ensures the specimen is accurately identified and reduces the risk of mislabeling, which is critical for proper diagnosis and treatment.*

*Passing the specimen off the field for the surgical technologist to label increases the risk of miscommunication and potential labeling errors. Leaving the specimen on the sterile field until the surgeon labels it or until the end of the procedure delays proper handling and processing, increasing the risk of contamination or loss of the specimen.*

**49.**

Which of the following steps is crucial to ensure the availability of necessary surgical instruments?

**Verifying the sterilization indicators of the instrument packs**

Double-checking the patient's identity

Ensuring that the anesthesia equipment is in working order

Confirming that preoperative imaging has been completed

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*Correct answer: Verifying the sterilization indicators of the instrument packs*

*Verifying the sterilization indicators on instrument packs is critical for ensuring the instruments are sterile and safe, thus preventing infection and ensuring they are ready for use in surgery. This step directly impacts the safety and effectiveness of the surgical procedure.*

*Double-checking the patient's identity, while crucial for patient safety, does not pertain to the instruments' availability. Ensuring anesthesia equipment functionality is necessary for anesthesia management, not instrument availability. Preoperative imaging completion is vital for surgical planning but does not influence the readiness or sterility of surgical instruments.*

**50.**

In an emergency setting, which wound closure method is most suitable for rapidly closing a superficial laceration?

**Skin staples**

Subcuticular sutures

Interrupted silk sutures

Non-absorbable nylon sutures

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*Correct answer: Skin staples*

*Skin staples are ideal for quickly closing superficial lacerations in emergency settings due to their rapid application and secure closure. This efficiency is critical in emergencies where time is of the essence, helping to ensure the wound is closed promptly and effectively.*

*Subcuticular sutures, while beneficial for cosmetic outcomes, are time-consuming and not practical for rapid emergency use. Interrupted silk sutures also require more time to place, delaying wound closure. Non-absorbable nylon sutures, although potentially effective, take longer to apply compared to the quick and efficient placement of staples and are not as ideal for situations where rapid closure is necessary.*

**51.**

A specimen needs to be sent for microbiological analysis. What is the appropriate medium for transport?

**Sterile saline**

Formalin

Ethanol

Dry container

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*Correct answer: Sterile saline*

*Sterile saline is the appropriate medium for transporting specimens for microbiological analysis because it maintains the viability of microorganisms, allowing for accurate culture and identification. It provides a suitable environment that preserves the specimen's integrity for effective analysis.*

*Formalin and ethanol are fixatives that kill microorganisms, making them unsuitable for microbiological analysis. A dry container does not provide the necessary conditions to preserve the viability of microorganisms, risking desiccation and loss of the sample's integrity.*

**52.**

When applying manual hemostasis to control capillary bleeding from a large wound surface, what is the most effective method?

**Continuous pressure with a sterile gauze pad**

Quick, intermittent pressure with a sterile pad

Application of a tourniquet proximal to the wound

Irrigation with cold saline

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*Correct answer: Continuous pressure with a sterile gauze pad*

*Continuous pressure with a sterile gauze pad is the most effective method for controlling capillary bleeding from a large wound surface because it helps to form a stable clot and stop the bleeding. This method ensures a consistent and effective approach to managing capillary hemorrhage.*

*Quick, intermittent pressure is not as effective as continuous pressure in forming a stable clot. The application of a tourniquet is not appropriate for capillary bleeding and is generally used for arterial bleeding. Irrigation with cold saline can help reduce bleeding but is not as effective as continuous pressure for controlling capillary bleeding.*

**53.**

When gowning a sterile team member, what is the correct technique to ensure sterility is maintained?

**Present the gown in a way that allows the team member to grasp it and step into it without touching the outside.**

Unfold the gown and place it over the team member's shoulders before they put their arms in the sleeves.

Assist the team member by holding the inside of the gown sleeves while they insert their hands.

Hand the gown to the team member, providing assistance as requested.

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*Correct answer: Present the gown in a way that allows the team member to grasp it and step into it without touching the outside.*

*The correct technique to ensure sterility is maintained when gowning a sterile team member is to present the gown in a way that allows the team member to grasp it and step into it without touching the outside. This method ensures that the outside of the gown remains sterile and reduces the risk of contamination.*

*Unfolding the gown and placing it over the team member's shoulders before they put their arms in the sleeves can lead to contamination. Assisting by holding the inside of the gown sleeves while the team member inserts their hands can also result in contamination. Handing the gown to the team member and providing assistance as requested does not ensure a sterile technique, making it an incorrect approach.*

**54.**

What is the primary advantage of using a laparoscopic insufflator during minimally invasive surgery?

**Maintaining a stable pneumoperitoneum**

Minimizing the risk of postoperative infection

Reducing the need for manual retraction

Improving the resolution of the endoscopic camera

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*Correct answer: Maintaining a stable pneumoperitoneum*

*Maintaining a stable pneumoperitoneum is the primary advantage of using a laparoscopic insufflator because it provides the necessary space for surgical instruments and visibility, ensuring a controlled environment.*

*While using an insufflator can indirectly help with infection control by maintaining a closed environment, it is not the primary advantage. Reducing the need for manual retraction is a benefit, but is very peripheral to its main purpose of creating and maintaining the necessary working space. Improving the resolution of the endoscopic camera is not directly related to the function of an insufflator.*

**55.**

In a case of severe abdominal trauma, the surgical team decides to pack the abdomen to control diffuse bleeding. What is a critical step in this process?

**Counting all sponges before closure**

Using radiopaque sponges only

Applying hemostatic agents to each sponge

Packing with as many sponges as possible

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*Correct answer: Counting all sponges before closure*

*Counting all sponges before closure is a critical step in the process of packing the abdomen to control diffuse bleeding in severe abdominal trauma cases. This practice ensures that no sponges are inadvertently left inside the patient's body, which could lead to severe complications.*

*Radiopaque sponges help detect any retained sponges on X-rays, but they do not replace the necessity of an accurate count. Hemostatic agents can assist in controlling bleeding but do not address the issue of retained sponges. Packing the abdomen must be done carefully and systematically, not simply packed with as many sponges as possible.*

**56.**

What type of dressing should be applied to a wound with moderate to heavy exudate to promote healing and minimize maceration?

**Foam dressing**

Transparent film dressing

Hydrocolloid dressing

Non-adherent gauze dressing

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*Correct answer: Foam dressing*

*Foam dressings are ideal for wounds with moderate to heavy exudate because they are highly absorbent and maintain a moist wound environment while preventing maceration. These dressings can handle a significant amount of exudate, which helps to protect the surrounding skin from excessive moisture and supports the healing process by keeping the wound clean and covered.*

*Transparent film dressings lack absorbency, making them inappropriate for heavily exudating wounds. Hydrocolloid dressings can manage low to moderate exudate but may become oversaturated with heavy exudate, potentially leading to maceration. Non-adherent gauze dressings do not provide adequate absorbency for heavy exudate and may require frequent changes, which can disrupt the wound and impede healing.*

**57.**

Which position is most appropriate for a patient undergoing abdominal surgery to ensure optimal access to the surgical site?

**Supine position**

Trendelenburg position

Lithotomy position

Lateral position

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*Correct answer: Supine position*

*The most appropriate position for a patient undergoing abdominal surgery to ensure optimal access to the surgical site is the supine position. This position allows the surgeon the best access to the abdominal cavity and is commonly used for a variety of abdominal procedures.*

*The Trendelenburg position is more suited for lower abdominal and pelvic surgeries, not general abdominal procedures. The lithotomy position is used for gynecological, urological, and colorectal surgeries and is not ideal for general abdominal access. The lateral position is used for surgeries involving the side of the body and does not provide optimal access to the abdominal area.*

**58.**

What is the primary purpose of using a stockinette during the casting procedure?

**To prevent skin irritation and provide comfort**

To provide a scaffolding that will increase the overall strength of the cast

To promote faster drying of the cast

To maintain limb alignment during casting

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*Correct answer: To prevent skin irritation and provide comfort*

*The primary purpose of using a stockinette during the casting procedure is to prevent skin irritation and provide comfort. The stockinette acts as a soft, protective layer between the patient's skin and the cast material, reducing friction and potential irritation, thus enhancing the overall comfort of the patient during the casting process.*

*The stockinette does not contribute to the strength or rigidity of the cast; these properties are determined by the casting materials used.*

*It also does not play a role in promoting faster drying of the cast.*

*Proper limb alignment during casting is maintained through the accurate application of the cast material itself, not by the stockinette. The stockinette's primary role is to provide a protective barrier to prevent skin irritation.*

**59.**

For closing the subcutaneous layer, which type of suture material is preferred to minimize tissue reaction?

**Absorbable synthetic suture**

Non-absorbable silk suture

Stainless steel wire

Non-absorbable nylon suture

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*Correct answer: Absorbable synthetic suture*

*Absorbable synthetic sutures are preferred for closing the subcutaneous layer because they are designed to be absorbed by the body, minimizing the risk of foreign body reaction and eliminating the need for suture removal. This promotes a more comfortable healing process for the patient.*

*Non-absorbable silk sutures can cause significant tissue reactions and require removal after healing, making them less ideal. Stainless steel wire is very rigid and would increase the potential for discomfort and foreign body reaction. Non-absorbable nylon sutures also necessitate removal and can cause tissue reactions, making them less ideal for subcutaneous closure.*

**60.**

In a case of acute appendicitis, which anatomical landmark is most important for the surgeon to identify to ensure the correct removal of the appendix?

**McBurney’s point**

Linea alba

Inguinal ligament

Costal margin

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*Correct answer: McBurney’s point*

*McBurney’s point is the crucial anatomical landmark in acute appendicitis surgery as it helps the surgeon locate the appendix accurately. It is located one-third the distance from the anterior superior iliac spine to the umbilicus, directly over the appendix base.*

*The linea alba, while important in abdominal surgeries for other reasons, does not assist in locating the appendix. Similarly, the inguinal ligament is relevant in hernia surgeries but not in appendicitis, and the costal margin is part of the rib cage, unrelated to the appendix’s position.*

**61.**

In preparing a bone graft from the iliac crest, what is a critical step to ensure the graft is suitable for transplantation?

**Wrapping the graft in moist, sterile gauze**

Keeping the graft submerged in an antibiotic solution

Sterilizing the graft with an autoclave

Freezing the graft immediately after harvesting

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*Correct answer: Wrapping the graft in moist, sterile gauze*

*Wrapping the bone graft in moist, sterile gauze is critical to ensure it remains viable and suitable for transplantation. This step is essential to prevent the graft from drying out, thereby preserving the living cells and proteins that are crucial for successful integration into the recipient site.*

*While an antibiotic solution can reduce infection risk, it does not necessarily provide the necessary moisture for cell survival. Autoclaving destroys essential biological components and renders the graft non-viable. Freezing, although useful for long-term storage, can compromise cellular integrity and is not appropriate for grafts intended for immediate use.*

**62.**

What is the most important safety measure to take when transferring a patient from the operating table to the stretcher post-operatively?

**Ensuring all wheels on the stretcher are locked**

Transferring the patient as quickly as possible to minimize transfer risks

Removing all intravenous lines before the transfer

Using at least six team members to transfer

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*Correct answer: Ensuring all wheels on the stretcher are locked*

*Ensuring all wheels on the stretcher are locked is an important safety measure when transferring a patient from the operating table to the stretcher post-operatively. Locking the wheels prevents the stretcher from moving unexpectedly, which significantly reduces the risk of falls and injuries during the transfer process.*

*Transferring the patient quickly increases the likelihood of errors and accidents, making it an unsafe approach. Removing all intravenous lines before the transfer can compromise patient care by disrupting necessary treatments and is not necessary. While having an adequate number of team members to assist with the transfer is important, using at least six team members is generally excessive.*

**63.**

Which patient positioning device is most important for maintaining proper alignment and safety during a spinal surgery performed in the prone position?

**Wilson frame**

Bean bag positioner

Knee crutches

Arm boards

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*Correct answer: Wilson frame*

*The Wilson frame is the most important positioning device for maintaining proper alignment and safety during spinal surgery performed in the prone position. This device is specifically designed to support the body and ensure correct spinal alignment, which is crucial for the success of the surgery and the patient's safety.*

*A bean bag positioner, while useful for general support, does not offer the precision needed for spinal alignment. Knee crutches are intended to support the legs, not the spine, and therefore do not provide the necessary alignment. Arm boards are used to secure the arms during surgery but do not address the alignment of the spine, making them inadequate for this purpose.*

**64.**

During an exploratory laparotomy, the surgeon asks you to help control bleeding by packing the surgical site. What type of sponge is most commonly used for this purpose?

**Laparotomy sponge**

Raytec sponge

Neurological sponge

Dental roll

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*Correct answer: Laparotomy sponge*

*When controlling bleeding during an exploratory laparotomy, the most appropriate tool is the laparotomy sponge. These sponges are specifically designed for open abdominal surgeries, offering high absorbency and ease of use. They also typically have radiopaque markers, which help ensure they are not accidentally left inside the patient.*

*Raytec sponges are smaller and less absorbent, making them more appropriate for minor procedures. Neurological sponges are designed for neurosurgical use and are not effective in packing large surgical sites. Dental rolls are intended for dental use and lack the necessary size and absorbency for controlling bleeding in abdominal surgeries.*

**65.**

When preparing a radial artery graft for coronary bypass surgery, which solution is most commonly used to temporarily store the graft?

**Heparinized saline**

Normal saline

Lactated Ringer's solution

Dextrose 5% in water

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*Correct answer: Heparinized saline*

*Heparinized saline is most commonly used to temporarily store the radial artery graft because it effectively prevents clot formation and maintains the vessel's patency. This anticoagulant solution is essential for preserving the graft's functionality and ensuring it remains viable for coronary bypass surgery.*

*Normal saline, lactated Ringer's solution, and dextrose 5% in water are not suitable for storing the radial artery graft, as all of these storage methods lack anticoagulant properties and do not prevent clot formation.*

**66.**

When using bipolar cautery to control bleeding in a neurosurgical procedure, what is a key advantage over monopolar cautery?

**Reduced risk of injury to adjacent structures**

Greater cutting efficiency

Lower thermal output

Lower power requirement

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*Correct answer: Reduced risk of injury to adjacent structures*

*A key advantage of using bipolar cautery over monopolar cautery in neurosurgical procedures is the reduced risk of injury to adjacent structures because the electrical current is confined between the tips of the forceps. This containment minimizes collateral damage to delicate neural tissues.*

*Bipolar cautery is not primarily used for cutting but for coagulation, so cutting efficiency is not a key advantage. Lower thermal output is not as significant an advantage as the reduced risk of injury to surrounding tissues. Lower power requirement is a feature but not the primary advantage in the context of neurosurgical procedures.*

## 67.

During surgery, a surgeon hands you a specimen for frozen section analysis. What should you do next?

**Place the specimen in a dry container**

Immerse the specimen in formalin

Flash freeze the specimen for transportation

Leave the specimen on the sterile field until the end of the procedure

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*Correct answer: Place the specimen in a dry container*

*For frozen section analysis, the specimen should be placed in a dry container to maintain its integrity and prepare it for rapid freezing and pathological examination. This method ensures the tissue remains suitable for detailed and accurate analysis under the microscope.*

*Formalin immersion is not suitable for frozen sections; it is used for routine histology and not for the immediate analysis required for frozen sections. Flash freezing is typically handled by the pathology department, not the surgical team. Leaving the specimen on the sterile field risks its contamination and degradation and may delay analysis.*

**68.**

During a laparotomy, the surgeon decides to close the fascia. Which suture material is most appropriate for this layer?

**Absorbable synthetic suture**

Silk suture

Nylon suture

Chromic gut suture

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*Correct answer: Absorbable synthetic suture*

*Using absorbable synthetic sutures for fascia closure ensures that the sutures provide necessary strength during the critical initial healing phase and then safely dissolve, eliminating the need for removal and reducing the risk of infection and foreign body reactions. These sutures balance strength and biodegradability, making them suitable for internal use.*

*Silk sutures, being non-absorbable, pose a higher risk for infection and prolonged foreign body reaction, making them unsuitable for fascia. Nylon sutures also remain in the body and can cause long-term irritation. Chromic gut sutures, while absorbable, degrade too quickly to offer the sustained support necessary for fascia healing.*

**69.**

What is the most common complication associated with the surgical treatment of a hernia?

**Recurrence of the hernia**

Infection

Hematoma formation

Adhesion formation

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*Correct answer: Recurrence of the hernia*

*Recurrence of the hernia is the most common complication because, even with successful surgery, there is always a risk of the hernia returning, especially if the underlying factors causing the hernia are not addressed. This means that, despite optimal surgical intervention, patients may still experience a recurrence due to factors like tissue weakness or physical strain.*

*Infection, while a possible complication, is not as common as hernia recurrence and can typically be prevented with proper surgical technique and postoperative care. Hematoma formation is less common and generally resolves with appropriate management. Adhesion formation is more likely in abdominal surgeries involving the peritoneum and is not as frequently a concern in hernia repairs.*

**70.**

For an orthopedic procedure involving internal fixation of a fracture, which supplies are most important?

**Bone screws and plates**

Catheter and drainage bag

Laparoscopic trocars

Suction tubing and canister

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*Correct answer: Bone screws and plates*

*Bone screws and plates are crucial for orthopedic procedures involving the internal fixation of fractures. These supplies are specifically designed to stabilize and hold the broken bone pieces together, ensuring proper alignment and healing of the bone.*

*A catheter and drainage bag are used for urinary management and have no direct role in bone fracture fixation. Laparoscopic trocars are used in minimally invasive surgeries, which are unrelated to open orthopedic procedures. Suction tubing and canister, while important for maintaining a clear surgical field, are not directly involved in the fixation of fractures.*

**71.**

What is the primary advantage of using a closed vacuum drainage system, like a Hemovac, in postoperative wound management?

**Reduces the risk of infection**

Is more cost-effective compared to other systems

Only requires dressing changes weekly

Can be used for both drainage and irrigation simultaneously

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*Correct answer: Reduces the risk of infection*

*The primary advantage of using a closed vacuum drainage system like a Hemovac in postoperative wound management is its ability to significantly reduce the risk of infection. By maintaining a closed environment and continuously evacuating fluids, it helps keep the wound clean and promotes a healthier healing process.*

*Cost-effectiveness is not the main benefit of these systems, as they are often more costly than alternative wound management approaches. These systems require more frequent attention than just weekly dressing changes. They are not intended for the dual purposes of drainage and irrigation, focusing solely on effective fluid evacuation to support wound healing.*

**72.**

Which of the following settings is most appropriate for the harmonic scalpel when performing delicate tissue dissection?

**Low power mode**

High power mode

Pulsed mode

Continuous mode

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*Correct answer: Low power mode*

*Low power mode is most appropriate for performing delicate tissue dissection with a harmonic scalpel because it provides precise control and minimizes tissue damage. This setting ensures that the tissue is handled gently and accurately.*

*High power mode is more suitable for cutting thicker tissues and can cause excessive tissue damage in delicate dissections.*

*Pulsed mode is not typically used for delicate tissue dissection with the harmonic scalpel as it does not provide the necessary continuous precision.*

*Continuous mode, while suitable for consistent cutting, does not offer the same control as low power mode for delicate tissues.*

**73.**

In the event of a sudden arterial bleed during surgery, what is the first step the surgical first assistant should take to facilitate efficient management of the situation?

**Apply direct pressure to the bleeding site**

Call for additional assistance

Increase the patient's oxygen supply

Clamp the bleeding artery

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*Correct answer: Apply direct pressure to the bleeding site*

*In the event of a sudden arterial bleed during surgery, the first step the surgical first assistant should take is to apply direct pressure to the bleeding site. This action is critical for controlling the bleeding and stabilizing the patient.*

*Calling for additional assistance is important but should be done after or simultaneously with applying direct pressure, as it is not as important as controlling the bleeding. Increasing the patient's oxygen supply does not directly address the immediate bleeding issue. Clamping the bleeding artery is a secondary step that should follow the application of direct pressure to control the situation initially.*

**74.**

When should pneumatic compression devices be applied to a patient scheduled for surgery to prevent deep vein thrombosis?

**Before the induction of anesthesia**

After the surgical incision is made

During the final stages of surgery

As soon as the procedure is finished

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*Correct answer: Before the induction of anesthesia*

*Pneumatic compression devices should be applied before the induction of anesthesia to prevent deep vein thrombosis. Applying the devices early ensures that prophylactic measures are in place from the beginning of the procedure, reducing the risk of clot formation.*

*Applying the devices after the surgical incision is made delays their protective benefits, and waiting until the final stages of surgery is too late to prevent initial thrombotic risks. Applying the devices only after the procedure is finished does not address the intraoperative risk of deep vein thrombosis, which is present throughout the surgery.*

**75.**

During an open cholecystectomy, the surgeon asks for assistance in controlling bleeding from a small arterial branch. Which instrument should be used to apply hemostatic clips?

**Hemoclip applier**

Kelly clamp

Metzenbaum scissors

Kocher forceps

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*Correct answer: Hemoclip applier*

*The Hemoclip applier is the correct instrument for applying hemostatic clips during an open cholecystectomy when controlling bleeding from a small arterial branch. This tool is specifically designed for the task and ensures precise and secure placement of the clips to effectively stop the bleeding.*

*The Kelly clamp is used for clamping larger vessels or tissues and lacks the functionality to apply hemostatic clips. Metzenbaum scissors are intended for cutting delicate tissues and do not have the capability to apply clips. Kocher forceps are designed for grasping tissues but do not offer the precision required for securing hemostatic clips.*

**76.**

When preparing for a tissue transplantation procedure, which type of graft is obtained from a genetically non-identical member of the same species?

**Allograft**

Autograft

Xenograft

Isograft

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*Correct answer: Allograft*

*An allograft refers to a tissue graft obtained from a donor who is genetically non-identical but of the same species. This type of graft is widely used in transplantation because it often allows for the necessary genetic compatibility while not requiring the donor and recipient to be genetically identical.*

*An autograft is derived from the patient's own tissue, ensuring compatibility without the risk of rejection; it is not from another individual. A xenograft comes from a different species and is often not suitable for human-to-human transplantation. An isograft involves genetically identical donors, which is only applicable in cases like identical twins.*

**77.**

When assisting in a wound debridement, what is the most critical step to prevent infection?

**Maintaining strict aseptic technique**

Using prophylactic antibiotics

Applying a tourniquet prior to beginning

Ensuring that sterile gloves are used for the procedure

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*Correct answer: Maintaining strict aseptic technique*

*Maintaining strict aseptic technique is the most critical step to prevent infection during wound debridement. This ensures that no new pathogens are introduced into the wound, significantly reducing the risk of postoperative infection.*

*Using prophylactic antibiotics cannot alone prevent infection if aseptic techniques are not adhered to during the procedure. Applying a tourniquet is irrelevant to infection prevention and is used to control bleeding. While using sterile gloves is important, it is only one component of the overall aseptic technique needed to prevent infection.*

**78.**

Which type of surgical incision is most appropriate for gaining access to the abdominal cavity for a laparotomy?

**Midline incision**

Pfannenstiel incision

Kocher incision

McBurney incision

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*Correct answer: Midline incision*

*The most appropriate type of surgical incision for gaining access to the abdominal cavity for a laparotomy is the midline incision. This incision provides excellent access to the entire abdominal cavity, allowing the surgeon to reach various organs and structures effectively, which is essential for a wide range of abdominal procedures.*

*The Pfannenstiel incision is typically used for pelvic surgeries, such as cesarean sections, and does not offer the same broad access to the abdominal cavity. The Kocher incision is mainly used for surgeries involving the liver and gallbladder, limiting its usefulness for general abdominal procedures. The McBurney incision is specific to appendectomies and does not provide the comprehensive access needed for a laparotomy.*

**79.**

Which material is typically used to create a Rummel tourniquet for vascular control?

**Umbilical tape**

Silk suture

Nylon suture

Metal clamp

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*Correct answer: Umbilical tape*

*Umbilical tape is the correct material for a Rummel tourniquet because it combines flexibility and strength, ensuring effective and safe vascular control. It is soft and pliable, minimizing the risk of vascular damage while maintaining the necessary pressure to control bleeding. This makes it ideal for the delicate task of vascular occlusion in a surgical setting.*

*Silk and nylon sutures are designed for tissue approximation and lack the necessary width and flexibility required for a Rummel tourniquet, which can lead to vessel injury. Metal clamps, while useful for temporary vessel occlusion, are too rigid and can cause significant damage to vessels, making them unsuitable for the Rummel technique.*

**80.**

During a surgical procedure, if the patient's blood pressure drops significantly, what is the most appropriate initial action for the surgical first assistant?

**Notify the anesthesiologist**

Increase the rate of IV fluids

Perform a blood transfusion immediately

Assess if the patient has any medication allergies

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*Correct answer: Notify the anesthesiologist*

*If the patient's blood pressure drops significantly during a surgical procedure, the most appropriate initial action for the surgical first assistant is to notify the anesthesiologist. The anesthesiologist is responsible for managing the patient's vital signs and needs to be informed immediately to take appropriate actions.*

*Increasing the rate of IV fluids or performing a blood transfusion are actions that should be directed by the anesthesiologist or the physician managing the patient's care. Assessing for medication allergies, while important, does not address the immediate critical need to manage the patient's dropping blood pressure.*

**81.**

What is the primary mechanism of action for fibrin sealants when used as a hemostatic agent in surgery?

**They mimic the final stages of the blood coagulation cascade**

They create a physical barrier to bleeding

They activate platelets to form a clot

They induce vasoconstriction to reduce blood flow

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*Correct answer: They mimic the final stages of the blood coagulation cascade*

*The primary mechanism of action for fibrin sealants when used as a hemostatic agent is that they mimic the final stages of the blood coagulation cascade, forming a stable clot by combining fibrinogen and thrombin. This biochemical action replicates the natural process of blood clotting, ensuring effective hemostasis.*

*While fibrin sealants create a physical seal, their primary action is biochemical, mimicking natural clotting processes. They do not directly activate platelets; they work by forming fibrin clots. Fibrin sealants do not induce vasoconstriction; they act through clot formation.*

## 82.

During a colectomy, the surgeon asks you to assist with stapling the mesentery. What is the main advantage of using a stapling device in this context?

**Reduces operative time**

Provides permanent occlusion of vessels

Decreases postoperative inflammation

Eliminates the need for sutures

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*Correct answer: Reduces operative time*

*The main advantage of using a stapling device during a colectomy is the reduction in operative time. The stapler allows for quicker and more efficient tissue closure compared to traditional suturing methods, which can significantly speed up the procedure and enhance overall efficiency.*

*While stapling can occlude vessels, this is not the main benefit in this context. The primary advantage is not related to reducing postoperative inflammation or eliminating sutures but rather the efficiency and time saved during the surgery.*

**83.**

During a carotid endarterectomy, the surgeon encounters unexpected bleeding from a branch of the external carotid artery. What is the best course of action to rapidly control the bleeding?

**Apply hemostatic clips to the bleeding vessel**

Ligate the artery with a silk suture

Pack the area with gauze

Use electrocautery to cauterize the vessel

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*Correct answer: Apply hemostatic clips to the bleeding vessel*

*Applying hemostatic clips to the bleeding vessel can be a highly effective method for controlling bleeding during a carotid endarterectomy. Hemostatic clips provide rapid hemostasis and are a commonly used tool in vascular surgeries due to their ability to securely close vessels, making them a reliable choice for immediate bleeding control.*

*Ligating the artery with a silk suture, while a potentially effective approach, is more time-consuming and may not provide the rapid response needed in an emergency. Packing the area with gauze is a temporary measure and can obscure the surgical field, complicating further intervention. Using electrocautery might not be suitable for this type of vessel and can lead to additional tissue damage without guaranteeing complete hemostasis.*

**84.**

Which technique is most appropriate for separating tissue planes in a blunt dissection?

**Using fingers or a blunt instrument to gently separate tissues**

Cutting through tissues with a scalpel

Applying high-frequency electrocautery

Using laser dissection

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*Correct answer: Using fingers or a blunt instrument to gently separate tissues*

*Using fingers or a blunt instrument to gently separate tissues is the most appropriate technique for blunt dissection because it minimizes tissue damage and preserves important structures. This method ensures a gentle and controlled separation of tissue planes.*

*Cutting through tissues with a scalpel is a sharp dissection technique and does not achieve the gentle separation of tissue planes characteristic of blunt dissection. Applying high-frequency electrocautery is used for cutting and coagulation but can cause significant tissue damage, making it unsuitable for blunt dissection. Laser dissection is another form of sharp dissection and is not appropriate for the gentle separation required in blunt dissection.*

**85.**

When applying a cast, what is the significance of ensuring proper joint positioning?

**To prevent deformities and ensure functional alignment**

To provide optimal functionality while using the cast

To facilitate easier removal of the cast

To improve patient comfort during application

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*Correct answer: To prevent deformities and ensure functional alignment*

*Ensuring proper joint positioning when applying a cast is essential to prevent deformities and ensure that the bones and joints heal in the correct anatomical alignment. This functional alignment is critical for the restoration of normal movement and function after the cast is removed, promoting effective rehabilitation and recovery.*

*While the optimal functionality of the cast and patient comfort are important, they are secondary to the primary goal of preventing deformities.*

*Ensuring proper joint positioning inherently leads to better functionality and alignment.*

*Easier removal of the cast is not a primary consideration; the focus should be on achieving the best possible long-term outcomes for healing rather than immediate conveniences.*

**86.**

In a lung lobectomy, the surgeon asks for a stapler to divide the bronchus. Which type of stapling device is most appropriate for this task?

**Endoscopic linear stapler**

Circular stapler

Skin stapler

Ligating clip applier

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*Correct answer: Endoscopic linear stapler*

*An endoscopic linear stapler is the most appropriate device for dividing the bronchus during a lung lobectomy. It provides the precision and secure closure necessary for airway management in such procedures.*

*A circular stapler is used for gastrointestinal anastomoses and is not suitable for dividing the bronchus. Skin staplers are designed for external skin closure and cannot handle internal structures like the bronchus. The ligating clip applier is intended for securing vessels or ducts with clips, and would not be used for stapling and dividing the bronchus.*

## 87.

During a liver resection, which method is most appropriate for achieving hemostasis of small bleeding vessels?

**Electrocautery**

Application of a micro-tourniquet

Manual compression with a sponge

Use of bone wax

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*Correct answer: Electrocautery*

*Electrocautery is the most appropriate method for achieving hemostasis of small bleeding vessels during a liver resection because it allows for precise control of bleeding by coagulating the blood vessels. This method ensures effective and rapid hemostasis, essential for a successful surgical outcome.*

*The application of any kind of tourniquet is not practical for small bleeding vessels and is more suitable for larger vessels or structures. Manual compression with a sponge is a temporary measure and not as effective as electrocautery for achieving sustained hemostasis. The use of bone wax is typically employed in bone surgeries and is not suitable for bleeding vessels in liver resection.*

**88.**

When assisting in the placement of a chest tube, which step is most important to ensure proper function and prevent complications?

**Attaching it to a water-seal drainage system**

Clamping the tube immediately after insertion

Placing the patient in a prone position

Connecting the tube to a high-pressure suction device

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*Correct answer: Attaching it to a water-seal drainage system*

*When placing a chest tube, the most important step in ensuring proper function and preventing complications is to attach it to a water-seal drainage system. This system allows air and fluid to escape from the pleural space without letting air back in, thus maintaining negative pressure and facilitating lung re-expansion.*

*Clamping the tube can block the ability of air or fluid to drain from the pleural space and can lead to severe complications like tension pneumothorax. Placing the patient in a prone position is not standard practice and does not facilitate proper tube placement. Connecting the tube to high-pressure suction is not a normal intervention due to the risk of tissue damage and other complications.*

**89.**

A surgeon is performing a thyroidectomy and needs to control bleeding from the superior thyroid artery. Which action is most appropriate?

**Clamp the artery with a Kelly clamp and tie with a suture**

Apply a vascular clip and leave it in place

Use a bulldog clamp temporarily until cauterization

Place a Penrose drain to control the bleeding

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*Correct answer: Clamp the artery with a Kelly clamp and tie with a suture*

*The best action in this scenario is to clamp the artery with a Kelly clamp and then tie it with a suture. This method ensures secure and effective hemostasis.*

*Applying a vascular clip and leaving it in place would be a less common and less effective method for this scenario. A bulldog clamp is only a temporary measure and does not provide long-term control. A Penrose drain is not relevant for this purpose as it is intended for drainage rather than controlling arterial bleeding.*

**90.**

In a patient undergoing a cystostomy, what type of catheter is typically used to drain the bladder?

**Foley catheter**

Jackson-Pratt drain

Penrose drain

T-tube

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*Correct answer: Foley catheter*

*In cystostomy procedures, a Foley catheter is typically used because it is designed to provide continuous drainage of urine from the bladder. This catheter is equipped with a balloon that can be inflated to keep it securely in place within the bladder.*

*Jackson-Pratt and Penrose drains are used to drain fluid from surgical sites or wounds and are not designed for bladder drainage. The T-tube is specifically meant for bile duct drainage and is not applicable to bladder procedures.*

**91.**

What is the primary advantage of using traction and counter-traction techniques during a surgical procedure?

**To improve the surgeon’s visibility and access to the operative site**

To minimize the need for additional surgical instruments

To reduce the risk of hemorrhage

To reduce tissue trauma caused by the traction

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*Correct answer: To improve the surgeon’s visibility and access to the operative site*

*The primary advantage of using traction and counter-traction techniques is to improve the surgeon’s visibility and access to the operative site. This allows for more precise and effective surgical maneuvers, enhancing the overall quality and safety of the procedure.*

*While traction and counter-traction might reduce the need for additional instruments in some cases, this is not their primary advantage. These techniques do not directly reduce the risk of hemorrhage, as their main function is to aid in tissue manipulation and visibility. Although they can help manage tissue during surgery, their primary purpose is not to reduce tissue trauma.*

**92.**

Which of the following is the best action when disposing of a contaminated scalpel blade after surgery?

**Place it in a sharps container.**

Discard into a general waste bin at the conclusion of the procedure.

Wrap the blade in a sterile drape before disposing of it.

Remove the blade and discard the blade and handle separately.

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*Correct answer: Place it in a sharps container.*

*When disposing of a contaminated scalpel blade after surgery, the best action is to place it in a sharps container. Sharps containers are designed to safely contain and dispose of sharp objects, such as scalpel blades, ensuring they are handled and disposed of correctly.*

*Discarding the blade in general waste can lead to injuries and contamination. Wrapping it in a sterile drape does not provide sufficient protection. Separating the blade and handle increases the risk of accidental injury during disposal.*

**93.**

For a patient undergoing a laparoscopic cholecystectomy, which position is most appropriate to ensure optimal exposure of the surgical site?

**Reverse Trendelenburg**

Lithotomy

Prone

Supine with shoulder braces

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*Correct answer: Reverse Trendelenburg*

*Reverse Trendelenburg is the correct position for a laparoscopic cholecystectomy because it facilitates optimal exposure of the upper abdomen by allowing gravity to move the organs downward, away from the surgical site. This positioning is critical for providing the surgeon with the best possible view and access to the gallbladder.*

*Lithotomy positioning is inappropriate for this procedure as it is best used for gynecological and urological surgeries, not abdominal operations. A prone position is not suitable because it would not allow access to the abdominal area. Although the supine position is common for laparoscopic cholecystectomy, shoulder braces are unnecessary and do not enhance exposure of the surgical site, making them a less suitable choice.*

**94.**

When using a Yankauer suction tip during a thoracic surgery, what technique should be used to prevent tissue damage?

**Applying gentle suction and avoiding direct contact with tissue**

Using high-pressure suction, avoiding direct contact with tissue

Placing the suction tip directly on the tissue and using a very gentle suction setting

Alternating between suction and irrigation

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*Correct answer: Applying gentle suction and avoiding direct contact with tissue*

*The appropriate technique involves applying gentle suction and avoiding direct contact with the tissue to minimize the risk of damage. This method ensures that the suction effectively removes fluids without harming the surrounding tissues.*

*Using high-pressure suction is risky as it can cause significant tissue damage, especially if direct contact occurs. Placing the suction tip directly on the tissue, even with a gentle setting, can still lead to trauma due to the negative pressure applied to the tissues. Alternating between suction and irrigation is not a recognized method for preventing tissue damage in this context.*

**95.**

Which technique is most commonly used to close subcutaneous tissue in order to reduce tension and align the skin edges properly?

**Subcuticular sutures**

Interrupted simple sutures

Vertical mattress sutures

Horizontal mattress sutures

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*Correct answer: Subcuticular sutures*

*Subcuticular sutures are the preferred technique for closing subcutaneous tissue as they run just beneath the skin surface, effectively reducing tension and aligning the skin edges properly. This method also results in superior cosmetic outcomes with minimal scarring.*

*Interrupted simple sutures are better suited for skin closure and do not offer the same tension reduction and alignment benefits as subcuticular sutures. Vertical mattress sutures are more appropriate for approximating deep and superficial tissues but are not ideal for subcutaneous tissue closure. Horizontal mattress sutures help evert skin edges but are not the best option for achieving proper alignment and tension reduction in subcutaneous closures.*

**96.**

During a thyroidectomy, which instrument is commonly used to retract the sternocleidomastoid muscle?

**Green retractor**

Army-Navy retractor

Gelpi retractor

Hohmann retractor

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*Correct answer: Green retractor*

*The Green retractor is commonly used to retract the sternocleidomastoid muscle during a thyroidectomy because it is specifically designed to hold back soft tissues and muscles with minimal trauma. This makes it ideal for the delicate retraction needed in this procedure.*

*The Army-Navy retractor is more general-purpose and does not provide the specialized design needed for thyroidectomy. The Gelpi retractor, while self-retaining, is better suited for smaller surgical sites and not for retracting large muscles. The Hohmann retractor is primarily used in orthopedic procedures and is not designed for the type of soft tissue retraction required in thyroidectomy.*

**97.**

During an abdominal surgery, it suddenly becomes necessary for a large amount of irrigation fluid to be removed quickly. Which suction equipment is best suited for this purpose?

**Poole suction tip**

Frazier suction tip

Yankauer suction tip

Rosen suction tip

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*Correct answer: Poole suction tip*

*The Poole suction tip is designed specifically for the rapid removal of large amounts of irrigation fluid, making it the optimal choice for this surgical scenario. Its wide, multiple-hole design prevents clogging and ensures efficient fluid evacuation.*

*The Frazier suction tip is better suited for precise, small-volume suctioning, making it inappropriate for the task. The Yankauer suction tip handles moderate suction but does not have the capacity needed for large volumes of fluid as the Poole suction tip does. The Rosen suction tip, being specialized for ear surgery, is entirely unsuitable for this scenario.*

**98.**

When selecting a drainage device for a thyroidectomy, which option is commonly preferred to monitor for any potential bleeding or fluid accumulation?

**Jackson-Pratt drain**

Modified Foley catheter

Hemovac drain

Red Robinson catheter

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*Correct answer: Jackson-Pratt drain*

*The Jackson-Pratt drain is commonly used in thyroidectomy procedures due to its efficient fluid management and ability to monitor for potential postoperative bleeding. Its closed system with gentle suction ensures effective evacuation of fluids and early detection of complications.*

*A modified Foley catheter is inappropriate for this purpose, as Foley catheters are intended for urinary drainage. The Hemovac drain is not as commonly used in thyroidectomies due to potential damage to structures of the neck when applying negative pressure at the site. The Red Robinson catheter is designed for urinary use and would not be an appropriate tool for managing potential bleeding or fluid accumulation following a thyroidectomy.*

**99.**

When using an endoscopic camera, what is the primary method to prevent lens fogging during a laparoscopic procedure?

**Warming the lens before insertion**

Applying a thin layer of petroleum jelly

Periodically removing the camera for cleaning

Using a high-flow insufflator

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*Correct answer: Warming the lens before insertion*

*Warming the lens before insertion is the primary method to prevent lens fogging during a laparoscopic procedure because it reduces condensation on the lens. This proactive measure ensures clear visibility from the start of the procedure.*

*Applying a thin layer of petroleum jelly is not a standard practice and can obscure the lens, affecting visibility. Periodically removing the camera for cleaning can help with ongoing fogging issues but does not help prevent initial fogging. Using a high-flow insufflator helps maintain the working space but does not directly address lens fogging.*

**100.**

During the application of a splint, what is the primary purpose of using padding material?

**To protect the skin from irritation and pressure sores**

To absorb moisture and prevent infection

To provide additional support to the injured area

To provide a greater range of motion within the splint

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*Correct answer: To protect the skin from irritation and pressure sores*

*The primary purpose of using padding material during the application of a splint is to protect the skin from irritation and pressure sores. This padding serves as a crucial barrier between the rigid splint and the patient's skin, ensuring comfort and reducing the risk of skin breakdown due to pressure points.*

*Absorbing moisture and preventing infection, while beneficial, are not the main goals of padding material in this context.*

*The structural support to the injured area is provided by the splint itself, and padding does not contribute to this aspect.*

*Padding is not designed to provide a greater range of motion within the splint; its primary function is skin protection.*