NASC

NATIONAL ASSISTANT AT SURGERY CERTIFICATION

REGISTERED NURSE ASSISTANT AT SURGERY - CERTIFIED

RNAS-C Exam Study Guide

This study guide contains information that will help you prepare for the Registered Nurse (RN) Assistant at Surgery-Certified (RNAS-C) exam. The guide provides information about the exam, exam content, and study materials that support the exam content. This resource will make it easy to prepare for the exam with confidence.

Exam Preparation

1. Read over the study guide.
2. Review the exam content and outline.
3. Refresh your knowledge in deficient areas using the recommended study materials
4. Take the practice examination questions for each of the five categories.
5. Grade your practice examination questions. The answers are provided at the end of the practice exam questions. Make note of any problematic areas.
6. Review content areas from practice examination questions that were missed.
7. Allow sufficient time to complete the exam. It takes approximately 3 hours to complete the certification exam.
8. Make sure you are well-rested and prepared before attempting the certification exam.

Exam Content

The RNAS-C exam is designed to validate the knowledge and skills of the test-taker and help establish credible standards for RN first assistants across the country. NASC assures that each of the exam questions addresses the knowledge and skills that are commensurate with the entry-level RN First Assistant role. Each question was developed using relevant and current foundational perioperative textbooks and resources. The exam consists of 200 multiple-choice questions presented in four, 50-question sections:

Section I: Surgical Patient Care (50 questions - 25%)
Section II: Surgical Skill (50 questions - 25%)
Section III: Anatomy & Physiology (50 questions - 25%)
Section IV: Procedure Considerations (50 questions - 25%)

Exam Outline

The following outline presents the exam content by section.

Section I: Surgical Patient Care

A. Infection prevention
   1. Asepsis
   2. Sterile technique (eg, draping)

B. Microbiology
   1. Bacterial and viral infections (eg, Methicillin-resistant *Staphylococcus aureus*, hepatitis, HIV)
   2. Wound healing
   3. Sterilization and disinfection techniques

C. Diagnostic testing (ie, normal and critical values)
   1. Laboratory tests
   2. Radiological exams
   3. Electrocardiograms

D. Pharmacology
    1. Antibiotics (eg, bacitracin, cefazolin)
    2. Local anesthetics (eg, lidocaine, bupivacaine)
    3. Coagulation/anticoagulation medications (eg, heparin, protamine, thrombin)
    4. Miscellaneous pharmaceuticals (eg, normal saline, lactated Ringer's, epinephrine)
E. Principles of perioperative practice
    1. Positioning
        a. Fundamental principles
        b. Positions (ie, supine, Trendelenburg, reverse Trendelenburg, lithotomy, sitting and semi-sitting, lateral, prone)
        c. Positioning devices and accessories (eg, fracture table, stirrups)
    2. Specimen management
    3. Equipment
        a. Electrosurgical units (ESU)
        b. Lasers
        c. Pneumatic tourniquets
        d. Invasive and noninvasive monitors (ie, types, placement, complications)
    4. Dressing and casting materials and application
F. Legal aspects of perioperative practice
    1. Informed consent
    2. Scope of practice
    3. Malpractice
G. Workplace Safety
    1. Standard and transmission-based precautions and personal protective equipment
    2. US Occupational Safety and Health Administration regulations

Section II: Surgical Skill
A. Surgical instrumentation
    1. Selection (eg, tissue strength and structure)
    2. Usage
        a. Clamps
        b. Digital manipulation
        c. Forceps
        d. Needle holders
        e. Rectractors (manual, self-retaining)
        f. Scissors
        g. Sharps (eg, scalpels, saws, drills)
        h. Stapling devices
        i. Suction
    3. Specialty
        a. Cardiovascular
        b. General
        c. Neurological
        d. Obstetric/Gynecological
        e. Ophthalmological
        f. Otorhinolaryngological
        g. Thoracic

B. Tissue handling
    1. Halsted principles/tenets
    2. Skin preparations
        a. Procedural considerations
        b. Selection of preoperative skin antiseptics
        c. Techniques (ie, abdominal, chest, breast, anorectal, external genitalia, vaginal, extremities, hip, eye, ear, nose, fact, cranial)
    3. Traction/contraction
    4. Types of dissection
C. Tissue retraction
    1. Exposure (eg, digital, instrumental)
    2. Illumination (eg, headlights, lighted retractors, lighted suction tips, disposable lights)
    3. Sponge/packs (eg, indications for types of sponges, wet/dry, spongesticks)
    4. Suction (eg, evacuation, retraction)
    5. Endoscopic (eg, camera techniques, insufflation/fluid expansion)
D. Hemostasis
    1. Method (ie, arterial, venous, size of vessel, accessibility of vessel, adjoining tissues, permanent versus temporary, absorbable versus nonabsorbable suture, suture gauge necessary)
    2. Response
        a. Surgeon (ie, beyond first assistant skill, critical tissue, massive bleeding, high venous flow, disseminated intravascular coagulation [DIC])
        b. First assistant (ie, within first assistant skill, noncritical tissue, routine bleeding)
    3. Technique
        a. Temporary (ie, clamps, vascular clamps, vascular tourniquet, aneurysm clips, vessel loops, umbilical tape, tamponade)
        b. Permanent (ie, vascular clips, vascular staples, aneurysm clips, aneurysm glue)
        c. Pharmacologic
            1.) Collagen (ie, liquid, powder, sheet)
            2.) Absorbable gelatin sponge
            3.) Hydrogen peroxide
            4.) Thrombin
            5.) Silver nitrate
    4. Blood and fluid replacement
    5. Ligation
        a. Suture ligature
        b. Ties (ie, free hand, reel, instrument
    6. Equipment (eg, ESU, harmonic scalpel, tissue sealer)
E. Suturing
    1. Suture material
        a. Absorbable
        b. Nonabsorbable
        c. Monofilament
        d. Multifilament
        e. Synthetic
        f. Natural
    2. Layer closure
        a. Peritoneum
        b. Fascia
        c. Muscle
        d. Subcutaneous
        e. Skin

3. Stapling devices
    a. Skin
    b. Fascia
    c. Ligate and divide
    d. Linear stapler (ie, staple and divide)
    e. Circular stapler (ie, staple and divide)
4. Suturing techniques
    a. Continuous
    b. Interrupted
    c. Buried
    d. Purse string
    e. Subcuticular
    f. Retention
    e. Traction
5. Suture needles
6. Knot tying
    a. One-handed (ie, right-handed, left-handed)
    b. Two-handed (ie, basic knot, square knot, surgeon's knot)
    c. Instrument ties
    d. Suture ligature
    e. Continuous ties (eg, ligature reel)
7. Tension
8. Suture cutting

F. Surgical drains
1. Purpose
2. Types/functions
3. Methods of securing (ie, suture, tape, safety pin)

G. Surgical complications
1. Hemorrhage
    a. Type (eg, arterial, venous, active, passive)
    b. Corrective measures (eg, mechanical, chemical, thermal)
2. Perforation of viscous or cavity
    a. Type (eg, fluid leak, air leak)
    b. Corrective measures (eg, isolation, aspiration, irrigation)
3. Contamincation
    a. Sources (eg, break in sterile technique, abscess, contaminated or septic wound, spillage from unprepped bowel)
    b. Corrective measures (eg, isolation, remediation, irrigation, aspiration, pharmacologic agents)
4. Exposure, retraction, and compression injuries
    a. Sources (eg, instruments, personnel, environment)
    b. Corrective measures (eg, identification of cause, appropriate action)
5. Cardiac event
    a. Type (eg, arrythmias, arrest)
    b. Corrective measures (eg, alert surgical team, respond per role and certification)
6. Hypoxia
    a. Causes (eg, airway and/or ventilation, circulation, hemoglobin transportation, cellular metabolism)
    b. Corrective measures (eg, identification of cause, appropriate action)
7. Shock
    a. Causes (eg, hypovolemic, cardiogenic, neurogenic, metabolic, anaphylactic, septic)
    b. Corrective measures (eg, identification of cause, appropriate action)
8. Surgeon disability or death
    a. Remain with patient and maintain patient status
    b. Request immediate replacement of supervising surgeon

9. Critical equipment failure
    a. Type (eg, electrical/power source, mechanical, human error)
    b. Corrective measures (eg, prevention, identification of problem, correction)

Section III: Anatomy & Physiology

A. Anatomy and physiology
1. Abdominal aorta
2. Breast
3. Colon
4. Hip/Femur/Thigh
5. Inguinal
6. Reproductive
7. Spine
8. Thoracic
9. Urological

B. Surgical pathology
1. Fractures
2. Malignancy
3. Obesity
4. Trauma

C. Wound closure

Section IV: Procedure Considerations

A. Surgical procedures and nursing considerations
1. Abdominal aortic aneurysm repair
2. Abdominal hysterectomy (total versus subtotal)
3. Cholecystectomy
4. Colon resection (transverse)
5. Inguinal hernia repair
6. Laminectomy with discectomy
7. Nephrectomy
8. Open reduction internal fixation
9. Reduction mammoplasty
10. Thoracotomy (right upper lung)
11. Total hip arthroplasty
12. Tubal reanastomosis

B. Wound closure

Recommended Study Materials (most current edition/version)

1. Rothrock JC. Alexander's Care of the Patient in Surgery. Elsevier.

   - or -

   Phillips NM, Berry & Kohn's Operating Room Techniques. Elsevier.

2. Guidelines for Perioperative Practice. Denver, CO: AORN, Inc.

3. Core Curriculum for the RN First Assistant
   Seifert PC. AORN, Inc.

4. AORN Position Statement on RN First Assistants
   https://www.aorn.org/guidelines/clinical-resources/rn-first-assistant-resources

5. AORN Position Statement on Advance Practice Registered Nurses in the Perioperative Environment
   https://www.aorn.org/guidelines/clinical-resources/rn-first-assistant-resources

6. RNFA Standards of Practice
   https://www.aorn.org/guidelines/clinical-resources/rn-first-assistant-resources

Study Questions

Section I: Surgical patient

1. When a patient with a latex allergy requires surgery, the procedure should be scheduled _____.
    A. as the first procedure of the day
    B. as the last procedure of the day
    C. immediately after terminal cleaning
    D. immediately after all latex-containing products have been removed from the room

2. Which of the following perioperative professionals is responsible for ensuring that informed consent for the surgical procedure has been obtained through documentation in the patient's record?
    A. Surgeon
    B. First Assistant
    C. Physician's assistant
    D. Perioperative RN

3. Which of the following values represent normal reference ranges for serum sodium?
    A. 22 mEq/L – 29 mEq/L
    B. 98 mEq/L – 107 mEq/L
    C. 135 mEq/L – 145 mEq/L
    D. 160 mEq/L – 175 mEq/L

Section II: Surgical Skill

4. The primary suture line refers to sutures that _____.
    A. eliminate tension and reduce risk of evisceration or dehiscence
    B. obliterate dead space and approximate wound edges
    C. distribute stress uniformly along the incision and encourage healing
    D. obliterate dead space and close a circular opening

5. When using a monopolar ESU, the dispersive electrode should be placed _____.
    A. as far away from the operative site as possible
    B. over an implant containing metal components
    C. over a bony prominence
    D. over a large, well-perfused muscle mass

6. Which of the following self-retaining retractors would be used to spread and hold the ribs apart?
    A. Bookwalter
    B. Balfour
    C. Finochietto
    D. O'Sullivan-O'Connor

Section III: Anatomy & Physiology

7. Which of the following terms refers to the upper portion of the lungs that extend above the first rib?
    A. Basal
    B. Apical
    C. Hilum
    D. Diaphragm

8. The hard, outer shell of bone is the _____.
    A. cortical
    B. cancellous
    C. marrow
    D. periosteum

9. The _____ is the circular muscle at the distal end of the common bile duct that controls the flow of bile from the common duct into the duodenum.
    A. ampulla of Vater
    B. sphincter of Oddi
    C. islets of Langerhans
    D. triangle of Calot

Section IV: Procedure Considerations

10. When using a flank approach for surgery on the kidneys or ureters, the incision is made over the _____.
    A. 3rd rib or 4th rib
    B. 5th rib or 6th rib
    C. 8th rib or 9th rib
    D. 11th rib or 12th rib

11. Which of the following structures are removed during a *total abdominal hysterectomy*?
    A. uterus
    B. uterus and cervix
    C. uterus, cervix, fallopian tubes
    D. uterus, cervix, fallopian tubes, and ovaries

12. A false aneurysm or *pseudoaneurysm* occurs when _____.
    A. blood collects in the connective tissue inside the vessel wall
    B. thinning and stretching of the arterial wall creates a localized out-pouching
    C. a disruption occurs through all layers of a vessel wall
    D. a tear in the artery wall allows blood to dissect between the layers of the vessel wall

Answers and References for Study Questions

Question	Correct Answer	References
1	A	AORN Guideline for a Safe Environment of Care, 2021, Recommendation 9.4.2
2	D	Alexander's Care of the Patient in Surgery, 17th ed., p. 34 Berry & Kohn's Operating Room Technique, 13th ed., p. 367
3	C	Alexander's Care of the Patient in Surgery, 17th ed., p. 1134 Berry & Kohn's Operating Room Technique, 13th ed., p. 607
4	B	Alexander's Care of the Patient in Surgery, 17th ed., p. 180
5	D	AORN Guideline for Electrosurgical Safety, 2021, Recommendation 3.14 Berry & Kohn's Operating Room Technique, 13th ed., p. 349
6	C	Alexander's Care of the Patient in Surgery, 17th ed., p. 869 Berry & Kohn's Operating Room Technique, 13th ed., p. 873
7	B	Alexander's Care of the Patient in Surgery, 17th ed., p. 852
8	A	Alexander's Care of the Patient in Surgery, 17th ed., p. 664 Berry & Kohn's Operating Room Technique, 13th ed., pp. 731-732
9	B	Alexander's Care of the Patient in Surgery, 17th ed., p. 343 Core Curriculum for the RN First Assistant, Module IV Section 1: General Surgery
10	D	Alexander's Care of the Patient in Surgery, 17th ed., p. 518 Core Curriculum for the RN First Assistant, Module IV Section 1: General Surgery
11	B	Alexander's Care of the Patient in Surgery, 17th ed., p. 435 Berry & Kohn's Operating Room Technique, 13th ed., p. 709
12	C	Alexander's Care of the Patient in Surgery, 17th ed., p. 881 Berry & Kohn's Operating Room Technique, 13th ed., p. 684 Core Curriculum for the RN First Assistant, Module IV Section 7: Peripheral Vascular