MISSION

AACN Certification Corporation drives patient health and safety through comprehensive credentialing of acute and critical care nurses ensuring practice consistent with standards of excellence.

VISION

All nurses caring for acutely and critically ill patients and their families are certified.

VALUES

As the Corporation advances its mission and vision to fulfill its purpose and inherent obligation of ensuring the health and safety of patients experiencing acute and critical illness, the Corporation is guided by a set of deeply rooted values:

- **Providing leadership** to bring all stakeholders together to create and foster cultures of excellence and innovation
- **Acting with integrity** and upholding ethical values and principles in all relationships and the provision of sound, fair and defensible credentialing programs
- **Committing to excellence** in credentialing programs by striving to exceed industry standards and expectations
- **Promoting leading edge, research-based credentialing programs** for all nurses who care for and influence the care of acutely and critically ill patients
- **Demonstrating stewardship** through fair and responsible management of resources and cost-effective business processes

ETHICS

AACN and AACN Certification Corporation consider the American Nurses Association (ANA) Code of Ethics for Nurses foundational for nursing practice, providing a framework for making ethical decisions and fulfilling responsibilities to the public, colleagues and the profession. AACN Certification Corporation’s mission of public protection supports a standard of excellence where certified nurses have a responsibility to read about, understand and act in a manner congruent with the ANA Code of Ethics for Nurses.

The following AACN Certification Corporation programs have been accredited by the National Commission for Certifying Agencies (NCCA), the accreditation arm of the Institute for Credentialing Excellence (ICE):

![NCCA Accredited Program](image)

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<tr>
<th>Program</th>
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<tr>
<td>CCRN® (Adult)</td>
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<td>ACNPC-AG®</td>
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Our advanced practice certification programs, ACCNS-AG, ACCNS-P, ACCNS-N and ACNPC-AG, meet the National Council of State Boards of Nursing (NCSBN) criteria for APRN certification programs.
As healthcare becomes increasingly complex and challenging, certification has emerged as a mark of excellence showing patients, employers and the public that a nurse possesses a defined body of knowledge and has met the rigorous requirements to achieve specialty and/or subspecialty certification.

AACN Certification Corporation programs were created to protect healthcare consumers by validating the knowledge of nurses who care for and/or influence the care delivered to the acutely and critically ill. We are pleased to provide you with this handbook with information about our programs and how to apply for and take the CSC certification exam.

Today, more than 115,000 practicing nurses hold one or more of these certifications from AACN Certification Corporation:

**Specialty Certifications**
- CCRN® is for nurses providing direct care to acutely/critically ill adult, pediatric or neonatal patients.
- CCRN-K™ is for nurses who influence the care delivered to acutely/critically ill adult, pediatric or neonatal patients, but do not primarily or exclusively provide direct care.
- CCRN-E™ is for nurses working in a tele-ICU monitoring/caring for acutely/critically ill adult patients from a remote location.
- PCCN® is for progressive care nurses providing direct care to acutely ill adult patients.
- PCCN-K™ is for nurses who influence the care delivered to acutely ill adult patients, but do not primarily or exclusively provide direct care.

**Subspecialty Certifications**
- CMC® is for certified nurses providing direct care to acutely/critically ill adult cardiac patients.
- CSC® is for certified nurses providing direct care to acutely/critically ill adult patients during the first 48 hours after cardiac surgery.

**Advanced Practice Consensus Model-Based Certifications**
- ACNPC-AG® is for the adult-gerontology acute care nurse practitioner educated at the graduate level.
- The ACCNS credentials are for clinical nurse specialists educated at the graduate level to provide care across the continuum from wellness through acute care:
  - ACCNS-AG® is for the adult-gerontology clinical nurse specialists educated to care for adult-gerontology patients.
  - ACCNS-P® is for the pediatric clinical nurse specialists educated to care for pediatric patients.
  - ACCNS-N® is for the neonatal clinical nurse specialists educated to care for neonatal patients.

**Advanced Practice Certifications**
- With implementation of the Consensus Model in 2015, ACNPC and CCNS are available as renewal options only:
  - ACNPC® is for acute care nurse practitioners educated to provide care to adult patients.
  - CCNS® is for acute/critical care clinical care specialists educated to provide care to adult, pediatric or neonatal patients.

We continually seek to provide quality certification programs that meet the changing needs of nurses and patients. Please visit www.aacn.org/certification, or call 800-899-2226 for more information about the above certifications.

Thank you for your commitment to patients and their families and to becoming certified.
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The following information can be found in the Certification Exam Policy Handbook online at www.aacn.org/certhandbooks:

- AACN Certification Programs
- Name and Address Changes
- Confidentiality of Exam Application Status
- Testing Site Information
- Exam Scheduling and Cancellation
- On the Day of Your Exam
- Duplicate Score Reports
- Recognition of Certification
- Use of Credentials
- Denial of Certification
- Revocation of Certification
- Review and Appeal of Certification Eligibility

Please direct inquiries to:

AACN Certification Corporation, 101 Columbia, Aliso Viejo, CA 92656-4109
800-899-2226 • Fax: 949-362-2020 • certification@aacn.org

Please include your AACN customer number with all correspondence to AACN Certification Corporation.
CSC® Registered Service Mark
CSC (Cardiac Surgery Certification) is a registered service mark and denotes certification in cardiac surgery as granted by AACN Certification Corporation. Registered nurses who have not achieved CSC certification, whose CSC certification has lapsed, or whose clinical nursing specialty certification has lapsed or is inactive are not authorized to use the CSC credential.

Purpose and Rationale
CSC is a nursing subspecialty designed for specialty certified nurses who provide care for acutely/critically ill cardiac surgery patients within the first 48 hours postoperatively. Specialty nurses interested in this subspecialty certification may work in areas such as cardiothoracic surgery, cardiovascular surgery and postanesthesia care units.

The CSC exam is based on a study of practice, also known as a job analysis. The job analysis, conducted at least every five years, validates the knowledge, skills and abilities required for safe and effective practice as an RN or APRN in direct care of acutely/critically ill adult cardiac surgical patients within the first 48 hours postoperatively.

The test plan, which provides an outline of exam content, is developed by an expert CSC panel based on the results of the study of practice. The organizing framework for all AACN Certification Corporation exams is the AACN Synergy Model for Patient Care™, with CSC focusing exclusively on the clinical judgment component. A current clinical nursing specialty certification is required to ensure key nursing competencies of professional caring and ethical practice as outlined in the Synergy Model for Patient Care have been tested.

Clinical practice requirements have been validated by subject matter experts. The required hours of clinical practice correspond to the third stage of competence in Benner’s Stages of Clinical Competence. CSC certification denotes to the public those practitioners who possess a distinct and clearly defined body of knowledge called cardiac surgery nursing.

CSC Exam Content
The CSC exam is a 2-hour test consisting of 90 multiple-choice items. Of the 90 items, 75 are scored and 15 are used to gather statistical data on item performance for future exams. The content of the CSC exam is described in the test plan. The CSC exam focuses on the adult patient population. One hundred percent (100%) of the exam focuses on clinical judgment.

CSC Test Plan
Candidates are tested on a variety of patient care problems that are organized under major categories on the CSC Test Plan. Refer to the test plan on pages 9 and 10 for more information. Please note the percentage of the CSC exam devoted to each category.

Passing Point/Cut Score
A criterion-referenced standard setting process, known as the modified Angoff, is used to establish the passing point/cut score for the exam. Each candidate’s performance on the exam is measured against a predetermined standard.

The passing point/cut score for the exam is established using a panel of subject matter experts, an exam development committee (EDC), who carefully reviews each exam question to determine the basic level of knowledge or skill that is expected. The passing point/cut score is based on the panel’s established difficulty ratings for each exam question.

Under the guidance of a psychometrician, the panel develops and recommends the passing point/cut score, which is reviewed and approved by AACN Certification Corporation. The passing point/cut score for the exam is established to identify individuals with an acceptable level of knowledge and skill. All individuals with a score equal to or above the passing point/cut score have demonstrated an acceptable level of knowledge.
CSC EXAM ELIGIBILITY

Licensure
Current, unencumbered U.S.* RN or APRN license is required.

- An unencumbered license is not currently being subjected to formal discipline by any state board of nursing and has no provisions or conditions that limit the nurse’s practice in any way. This applies to all RN or APRN licenses you currently hold.
- If selected for audit, you will be asked to provide a copy of your RN or APRN license.
- Candidates and CSC-certified nurses must notify AACN Certification Corporation within 30 days if any restriction is placed on their RN or APRN license(s).

Practice
Candidates must meet one of the following clinical practice requirement options:

- Practice as an RN or APRN for 1,750 hours in direct care of acutely/critically ill adult patients during the previous 2 years, with 875 of those hours accrued in the most recent year preceding application. Of those 1,750 hours, 875 need to be in the care of acutely/critically ill adult cardiac surgery patients within the first 48 hours postoperatively.

  OR

- Practice as an RN or APRN for at least 5 years with a minimum of 2,000 hours in the care of acutely/critically ill adult patients, with 144 of those hours accrued in the most recent year preceding application. Of those 2,000 hours, 1,000 need to be in the care of acutely/critically ill adult cardiac surgery patients within the first 48 hours postoperatively.

Orientation hours spent shadowing/working with another nurse who is the one with the patient assignment cannot be counted toward clinical hours for CSC eligibility; however, orientation hours during which you are the assigned nurse providing direct care to acutely/critically ill adult cardiac surgery patients may be counted.

Practice hours for the CSC exam or renewal eligibility must be completed in a U.S.-based* or Canada-based facility or in a facility determined to be comparable to the U.S. standard of acute/critical care nursing practice as evidenced by Magnet® designation or Joint Commission International accreditation.

Nurses serving as manager, educator (in-service or academic), APRN or preceptor may apply their hours spent supervising nursing students or nurses at the bedside.

- Nurses in these roles must be actively involved in caring for cardiac and/or cardiac surgery patients; for example, demonstrating how to measure pulmonary artery pressures or supervising a new employee or student nurse performing a procedure.

Certification
A current clinical nursing specialty certification, to which the CSC credential will be attached, is required. The clinical nursing specialty certification must:

- involve direct care of adult patients, and
- be nationally accredited by the NCCA (National Commission for Certifying Agencies) or the ABSNC (American Board of Specialty Nursing Certification), and
- test beyond clinical judgment to include key nursing competencies of professional caring and ethical practice as outlined in the Synergy Model for Patient Care.

Examples of acceptable clinical nursing certifications include, but are not limited to, CCRN, CCRN-E, PCCN, ACNPC, ACNPC-AG, CCNS, ACCNS-AG, CNOR, CRNFA, CPAN, etc.

Practice Verification
The name and contact information of a professional associate must be given for verification of eligibility related to clinical practice hours. If you are selected for audit, this associate will need to verify in writing that you have met the clinical hour requirements.

- A professional associate is defined as your clinical supervisor or a colleague (RN or physician) with whom you work.

AACN Certification Corporation may adopt additional eligibility requirements at its sole discretion. Any such requirements will be designed to establish, for purposes of CSC certification, the adequacy of a candidate’s knowledge in care of the acutely/critically ill.

*Includes District of Columbia and U.S. territories of Guam, Virgin Islands, American Samoa and Northern Mariana Islands.
## APPLICATION FEES

### CSC Computer-Based Exam

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### CSC Retest

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### CSC Renewal by Exam

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Payable in U.S. funds. Fees are subject to change without notice. A $15 fee will be charged for a returned check.

Computer-based testing discounts are available for groups of **10 or more** candidates submitting their AACN certification exam applications in the same envelope. Employers may pre-purchase exam vouchers at a further discounted rate.

For details about Group and Value Program Discounts, visit [www.aacn.org/certification > Explore Certification Volume Discounts](http://www.aacn.org/certification) or email certification@aacn.org or call 800-899-2226.
AACCN Certification Corporation recommends you be ready to take the CSC exam before submitting your exam application.

**ONLINE APPLICATION PROCESS**

- **Register online** for computer-based testing at www.aacn.org/certification > Get Certified
- **Before you get started**, have available the following:
  - RN or APRN license number and expiration date
  - Name, address, phone and email address of your clinical supervisor or a professional associate (RN or physician) who can verify your practice eligibility
  - Credit card (Visa, MasterCard, Discover or American Express)
- **Same day processing**
  If your specialty certification is not from AACN, submit proof of current nationally clinical nursing specialty certification **within 10 days**.

**PAPER APPLICATION PROCESS**

- **Paper applications are required** for those applying with a group, for paper and pencil exams and for testing outside the U.S.
- **Complete the application** on pages 14-15 and **honor statement** on page 16
  - Fill in all requested information including that for your RN or APRN license
  - If your specialty certification is not from AACN, submit proof of current nationally accredited clinical nursing specialty certification.
- **Include application fee**
  - Credit card, check or money order
- **Allow 2 to 3 weeks for processing**

Use your legal name on the application.
This name must match photo identification used for exam entry and will be the name printed on your certificate.

1. **Receive notice of processed application**
   - AACCN will send you an email confirming that you have successfully applied to take the CSC exam.

2. **Receive approval-to-test email**
   - AACCN’s testing service (PSI/AMP) will send an email and mail a postcard to eligible candidates within **5 to 10 days** after confirmation email that will include:
     - A toll-free number and online instructions to schedule your testing appointment
     - The **90-day** period during which you must schedule and take the exam
     - Your **exam identification number**, which is your unique AACCN customer number preceded by the letter “C” (e.g., C00123456).
   - If you do not receive an email or postcard from PSI/AMP within **2 weeks of receiving confirmation email**, please contact AACCN Customer Care at 800-899-2226.

3. **Schedule the exam**
   - Upon receipt of PSI/AMP’s email or postcard:
     - Confirm that you are scheduled for the correct certification exam
     - Promptly schedule your exam appointment for a date and time that falls within your **90-day** testing window
   - Testing is offered twice daily, Monday through Friday, at **9 a.m. and 1:30 p.m.** Saturday appointments are available at most locations.
   - To locate one of the more than 300 PSI/AMP testing centers within the U.S., visit www.goAMP.com.

4. **Sit for the exam**
   - Upon completion of computer-based exams, results with a score breakdown will be presented on-site.
   - Results of the paper and pencil exams will be mailed to candidates 3 to 4 weeks following paper testing.
   - Successful candidates will receive their wall certificate within 3 to 4 weeks of passing the exam.

Please ensure that AACN has your current contact information on record.
Updates may be made online at www.aacn.org/myaccount or emailed to info@aacn.org.
For name changes, please call AACCN Customer Care at 800-899-2226.
Purpose and Limitations of Renewal Options

The purpose of certification renewal is to promote continued competence. The renewal process helps to maintain an up-to-date knowledge base through continuing education and practice hours, or practice hours and passing the certification exam.

Following are the limitations to the components of the renewal options:

- CE/CERP limitations include content quality and relevance to practice as well as an individual’s ability to self-select CE/CERPs most pertinent to the individual’s practice and educational needs.
- Limitations of practice hours include the quality of the practice environment and limitations on learning opportunities.
- One limitation of the exam is not assessing new competencies, as exam competencies were validated through initial certification.

Requiring two components for renewal, rather than one, decreases the limitations and furthers the goal of continued competence.

Renewal Period

CSC certification is granted for a period of 3 years. Your certification period begins the first day of the month in which the CSC exam is passed and ends 3 years later; for example, July 1, 2017 through June 30, 2020. The purpose of certification renewal is to support continued competence.

Renewal notifications will be mailed and/or emailed to you starting 4 months before your scheduled CSC renewal date. You are responsible for renewing your certification even if you do not receive renewal notification.

Eligibility

Candidates for CSC renewal must meet the following requirements:

- Current, unencumbered U.S.* RN or APRN license that was not subjected to formal discipline by any state board of nursing during the 3-year certification renewal period
- Current clinical nursing specialty certification meeting all of the following criteria:
  - involves direct care of adult patients, and
  - is nationally accredited by the NCCA (National Commission for Certifying Agencies) or the ABSNC (American Board for Specialty Nursing Certification), and
  - tests beyond clinical judgment to include key nursing competencies of professional caring and ethical practice as outlined in the Synergy Model for Patient Care.
- Completion of 432 clinical practice hours with postoperative adult cardiac patients as an RN or APRN within the 3-year period preceding your scheduled renewal date, with 144 of those hours accrued in the 12-month period preceding your scheduled renewal date; all 432 clinical hours for renewal must be in the care of adult cardiac surgery patients within the first 48 hours postoperatively
- Completion of the required CERPs or take/pass the CSC exam

*Includes District of Columbia and U.S. territories of Guam, Virgin Islands, American Samoa and Northern Mariana Islands.
Renewal Options

You may seek CSC renewal via Renewal by CERPs or Renewal by Exam, or apply for Inactive Status. Do not apply for more than one option.

Renewal is available to all active certificants as early as 4 months prior to their scheduled renewal date. Visit www.aacn.org/certification > Renew Certification.

Option 1 - Renewal by CERPs
- Complete 25 Category A Clinical Judgment CERPs pertaining to cardiac surgery (includes all items on the CSC Test Plan) during the 3-year certification renewal period.

Option 2 - Renewal by Exam
- Meet the eligibility requirements for CSC renewal and successfully apply for and schedule your exam.
- The CSC exam must be completed before your scheduled renewal date. You may not take the exam early, then attempt to renew by CERPs if you do not pass.

Option 3 - Inactive Status
- Inactive status is available to CSC-certified nurses who do not meet the renewal eligibility requirements but do not wish to lose their CSC certification status. Inactive status provides additional time, up to 3 years from the scheduled renewal date, to meet the renewal eligibility requirements.
- During the time of Inactive status, the CSC credential may not be used.
- Inactive status may be held more than once, but not for two consecutive renewal periods.

For more details, refer to the CSC Renewal Handbook available at www.aacn.org/certhandbooks.
I. PROCEDURES (19%)

A. Cardiovascular
   1. CABG
      a. with cardiopulmonary bypass
      b. without cardiopulmonary bypass
   2. MAZE/modified MAZE procedure
   3. Repair of congenital heart defects in adults
      (e.g., ASD, bicuspid aortic valve)
   4. Repair of noncongenital heart defects
      (e.g., VSD, left ventricular aneurysm repair)
   5. Valvular surgery
      a. repair
      b. surgical replacement
      c. transcatheter valve replacement

B. Thoracic
   1. Repair of thoracic aortic aneurysm/dissection
      a. endograft
      b. open repair
   2. Surgical treatment of:
      a. esophageal cancer
      b. lung cancer

II. COMPLICATIONS (31%)

A. Cardiovascular
   1. Cardiogenic shock
   2. Hypotension and hypertension
   3. Hypovolemia
   4. Myocardial infarction
   5. Myocardial stunning
   6. Open chest from the OR
   7. Postoperative dysrhythmias
   8. Right heart failure
   9. Tamponade
   10. Vascular issues (e.g., compartment syndrome,
       pseudoaneurysm, hematoma, peripheral
       ischemia, retroperitoneal bleeding)

B. Pulmonary
   1. Acute respiratory distress syndrome (ARDS)
   2. Air-leak syndromes (e.g., pneumopericardium,
      pneumomediastinum)
   3. Aspirations
   4. Atelectasis
   5. Bronchospasm
   6. Hemorrhax
   7. Pleural effusions
   8. Pneumothorax
   9. Prolonged mechanical ventilation
   10. Pulmonary hypertension
   11. Transfusion-associated circulatory overload (TACO)
   12. Transfusion-related acute lung injury (TRALI)

C. Endocrine
   1. Hyperglycemia and hypoglycemia

D. Hematology/Immunology
   1. Bleeding and coagulopathies
   2. Heparin-induced thrombocytopenia (HIT)
   3. Heparin rebound
   4. Protamine reactions
   5. Sepsis

E. Neurology
   1. Lower limb deficits (e.g., spinal cord ischemia,
      paralysis)
   2. Postoperative impaired cognition
   3. Stroke (e.g., embolic, hemorrhagic, TIA)

F. Gastrointestinal
   1. Ischemic bowel

G. Renal
   1. Acid/base imbalances
   2. Acute kidney injury (e.g., acute tubular
      necrosis, azotemia)
   3. Life-threatening electrolyte imbalances
      (e.g., potassium, sodium, phosphorus,
      magnesium, calcium)

H. Multisystem
   1. Multi-organ dysfunction syndrome (MODS)
   2. Pain

I. Behavioral/Psychosocial
   1. Adjustment disorders (e.g., anxiety)
   2. Agitation
   3. Delirium

continued
III. THERAPEUTIC INTERVENTIONS (36%)

A. Cardiovascular
1. Antidysrhythmics
2. Defibrillation/cardioversion
3. Emergent reopening of the chest
4. Epicardial pacing
5. Fluid volume management specific to cardiac surgery
6. Inotropes
7. Intra-aortic balloon pump
8. Short-term ventricular assist devices (VADs)
9. Vasodilators/vasopressors

B. Pulmonary
1. Chest tubes/drains
2. Noninvasive positive pressure ventilation
3. Post-extubation care
4. Pulmonary vasodilators
   a. inhaled
   b. intravenous
5. Ventilator management and weaning

C. Endocrine
1. Hyperglycemia/hypoglycemia management

D. Hematology/Immunology
1. Blood and blood products
2. Pharmacologic agents for anticoagulation (e.g., heparin, bivalirudin)
3. Pharmacologic agents for controlling bleeding (e.g., desmopressin acetate, Factor VII, antifibrinolytic agents)

E. Neurology
1. Lumbar drain

F. Renal
1. Acid/base and electrolyte management
2. Renal replacement therapy (e.g., CRRT, hemodialysis)

G. Multisystem
1. Pain management

H. Behavioral/Psychosocial
1. Prevention and treatment of delirium

I. Postoperative Care
1. DVT prophylaxis
2. Early mobility protocols
3. GI prophylaxis (e.g., H₂ blockers, proton pump inhibitors)
4. Incision assessment and management
5. Management of recovery from anesthesia
6. Rewarming from hypothermia
7. Sedation

IV. MONITORING AND DIAGNOSTICS (15%)

A. Hemodynamic Monitoring
1. CVP monitoring (without pulmonary artery catheter)
2. Mixed venous monitoring
   a. ScvO₂
   b. SvO₂
3. Standard pulmonary artery catheter

B. Other Monitoring
1. Capnography
2. Pulse oximetry
3. Train-of-four

C. Diagnostics
1. ABG interpretation
2. Atrial electrograms
3. Chest x-ray interpretation for:
   a. placement of central line
   b. placement of endotracheal tube
   c. placement of IABP
   d. placement of NG tube
   e. pneumothorax
   f. pulmonary edema
4. Coagulation studies
   a. activated clotting time (ACT)
   b. fibrin degradation products
   c. standard studies (e.g., CBC, PT, APTT, fibrinogen)
5. QT interval monitoring
6. Serum lactate
7. ST segment monitoring
8. 12-lead electrocardiograph interpretation

The sum of these percentages is not 100 due to rounding. Order of content does not necessarily reflect importance.
1. The nurse notes 750 mL of chest tube drainage 2 hours following a CABG procedure of 5 vessels. The most likely cause is
   A. increased bleeding time due to heparin administration.
   B. mediastinal tissue injury due to breakage of sternal wires.
   C. thrombocytopenia due to prolonged bypass time.
   D. local hemorrhage due to rupture of the graft anastomosis.

2. After undergoing an emergency CABG, the patient has received one unit of PRBC and a 250 mL fluid bolus. The nurse notes sinus rhythm with no ectopy. The nurse should anticipate administering additional fluids.
   A. infusing inotropes.
   B. preparing for IABP placement.
   C. beginning ventricular pacing.

3. One hour post CABG, the patient remains mechanically ventilated. During the inspiratory phase, the nurse observes a decrease in the arterial systolic pressure. The nurse should immediately auscultate for
   A. bibasilar crackles.
   B. diminished breath sounds.
   C. muffled heart tones.
   D. a murmur.

4. Following a 4 vessel CABG, the nurse is assessing a 70 kg patient for readiness to wean from mechanical ventilation. Which of the following findings would indicate the patient is ready to extubate?
   A. PaO₂/FiO₂ ratio of 100
   B. Respiratory rate of 20
   C. Vital capacity of 600 mL
   D. Tidal volume of 350 mL

5. A patient develops thrombocytopenia following heparin administration. To prevent thromboembolism, the nurse should anticipate an order for
   A. warfarin (Coumadin).
   B. enoxaparin (Lovenox).
   C. tranexamic acid (Cyklokapron).
   D. argatroban (Acova).

6. After an uncomplicated mitral valve repair, assessment findings are as follows:
   BP 116/65
   HR 90
   PAP 73/50 mm Hg
   CO 4.2 L/min
   CI 1.7 L/min/m²
   The nurse should anticipate an order for intravenous
   A. epinephrine (Adrenalin).
   B. epoprostenol (Flolan).
   C. milrinone (Primacor).
   D. dobutamine (Dobutrex).

7. Following an emergent thoracic surgery, the nurse notes a significantly low serum sodium level in a patient with history of liver cirrhosis. The clinical characteristics of this finding include a
   A. hypotension and dry mucous membranes.
   B. tachycardia and pulmonary edema.
   C. crackles and high end-tidal CO₂.
   D. S3 heart sound and elevated jugular venous pressure.

8. When reviewing lab data 4 hours following mitral valve replacement, the nurse notes a decreased Hgb and HCT, increased INR and decreased platelets. The nurse should anticipate orders for which of the following?
   A. FFP and platelets
   B. FFP and cryoprecipitate
   C. fibrinogen and cryoprecipitate
   D. fibrinogen and platelets
   
   Answers:
   1. D
   2. B
   3. C
   4. D
   5. D
   6. B
   7. D
   8. A


Jaski BE. The 4 Stages of Heart Failure. Minneapolis, MN: Cardiotext; 2015.


Many references are available through AACN; visit www.aacn.org/Store.

More current versions may be available.

PUBLISHER CONTACTS:

American Heart Association – 800-242-8721
Cardiovascular Nursing Education Associates – 206-403-3486
Cardiotext Publishing – 800-999-9174
Elsevier (including Mosby, W. B. Saunders and Hanley & Belfus) – 800-545-2522
Jones & Bartlett – 800-832-0034
Lippincott Williams & Wilkins – 800-638-3030
McGraw-Hill – 877-833-5524
Springer Publishing – 877-687-7476
Wiley-Blackwell Publishing – 800-216-2522
## AACN PRODUCTS FOR CSC EXAM PREPARATION

AACN Certification Corporation does not participate in the development of AACN products and does not approve, endorse or recommend any specific exam preparation products.

<table>
<thead>
<tr>
<th>Product Title/Description</th>
<th>AACN Product #</th>
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<tbody>
<tr>
<td><strong>Online</strong> CSC Certification Review Course: Individual Purchase. 2016. AACN.</td>
<td>CSCOD</td>
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<tr>
<td>* Practice CSC Exam Questions. 2016. 100 questions with answers and rationales.</td>
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<tr>
<td>Cardiac Surgery Essentials for Critical Care Nursing. 2nd ed. 2016. Hardin S, Kaplow R. 550 pages.</td>
<td>100257</td>
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<tr>
<td>Hemodynamic Monitoring: Evolving Technologies and Clinical Practice. 2016. Lough ME. 800 pages.</td>
<td>128646</td>
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* Denotes products developed by AACN Certification Corporation.

For more details and to place an order, visit www.aacn.org > Store, or call AACN Customer Care at 800-899-2226, Monday through Friday between 7:30 a.m. and 4:30 p.m., Pacific Time.
1. REGISTRATION INFORMATION

PLEASE PRINT CLEARLY. PROCESSING WILL BE DELAYED IF INCOMPLETE OR NOT LEGIBLE. LEGAL NAME AS IT APPEARS ON YOUR GOVERNMENT-ISSUED ID CARD IS REQUIRED FOR EXAM.

<table>
<thead>
<tr>
<th>AACN CUSTOMER:</th>
<th>RN/APRN LICENSE:</th>
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<tbody>
<tr>
<td>Number</td>
<td>Exp. Date</td>
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<table>
<thead>
<tr>
<th>LEGAL NAME:</th>
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<table>
<thead>
<tr>
<th>HOME ADDRESS:</th>
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<tbody>
<tr>
<td>City</td>
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<tr>
<th>EMAIL:</th>
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<tr>
<th>EMPLOYER NAME:</th>
<th>BUSINESS PHONE:</th>
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2. AACN MEMBERSHIP

I would also like to join/renew/extend my AACN membership at this time and select member pricing for my exam fees:

(check one box only)

☐ 1-year AACN membership .................................................. $78
☐ 2-year AACN membership .................................................. $148
☐ 3-year AACN membership .................................................. $200

AACN membership includes nonrefundable $12 and $15 one-year subscriptions to Critical Care Nurse® and the American Journal of Critical Care®, respectively. AACN dues are not deductible as charitable contributions for tax purposes, but may be deducted as a business expense in keeping with Internal Revenue Service regulations.

Member exam fee ($130) + 1-year Membership ($78) = Savings of $7 over Nonmember fee

3. EXAM FEE

<table>
<thead>
<tr>
<th>CSC Adult</th>
<th>Initial Exam Fee</th>
<th>Retest Fee</th>
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<tbody>
<tr>
<td></td>
<td>AACN Member</td>
<td>Nonmember</td>
</tr>
</tbody>
</table>

Check one box only

☐ $130
☐ $110
☐ $155

☐ $215
☐ $110
☐ $155

☐ Check this box if you’ve attached a request and supporting documentation for special testing accommodations.

4. PAYMENT INFORMATION

☐ Check or money order attached – payable to AACN Certification Corporation. U.S. funds only.

Bill my credit card    ☐ Visa    ☐ MasterCard    ☐ American Express    ☐ Discover Card

Credit Card #: ____________________________ Exp. Date (mm/yy) __________

Name on Card ____________________________ Signature __________________

Amount Billed $__________ Address of Payor (if different than applicant) __________________

☐ Please do not include my name on lists sold to other organizations.

Please complete pages 2 & 3 of application.
5. DEMOGRAPHIC INFORMATION

Check one box in each category. Information used for statistical purposes and may be used in eligibility determination.

<table>
<thead>
<tr>
<th>Category</th>
<th>Options</th>
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<tbody>
<tr>
<td>Primary Area Employed</td>
<td>Acute Hemodialysis (21)</td>
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<tr>
<td></td>
<td>Burn Unit (13)</td>
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<tr>
<td></td>
<td>Cardiac Rehabilitation (26)</td>
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<tr>
<td></td>
<td>Cardiac Surgery/OR (36)</td>
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<tr>
<td></td>
<td>Cardiovascular/Surgical ICU (09)</td>
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<tr>
<td></td>
<td>Cath Lab (22)</td>
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<tr>
<td></td>
<td>Combined Adult/Ped. ICU (23)</td>
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<tr>
<td></td>
<td>Combined ICU/ICU (01)</td>
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<tr>
<td></td>
<td>Coronary Care Unit (03)</td>
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<td></td>
<td>Corporate Industry (24)</td>
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<td></td>
<td>Crit. Care Transport/Flight (17)</td>
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<tr>
<td></td>
<td>Direct Observation Unit (39)</td>
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<td></td>
<td>Emergency Dept. (12)</td>
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<td></td>
<td>General Med./Surf. Floor (18)</td>
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<td></td>
<td>Home Care (25)</td>
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<td></td>
<td>Intensive Care Unit (02)</td>
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<tr>
<td></td>
<td>Interventional Cardiology (31)</td>
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<td></td>
<td>Long-Term Acute Care (27)</td>
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<td>Medical Cardiology (34)</td>
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<td>Medical ICU (04)</td>
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<td>Medical Surgical ICU (35)</td>
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<td>Neonatal ICU (06)</td>
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<td>Neuro./Neurosurgical ICU (10)</td>
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<td>Oncology Unit (19)</td>
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<td>Operating Room (15)</td>
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<td>Pediatric ICU (05)</td>
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<td>Private Practice (32)</td>
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<td>Progressive Care Unit (16)</td>
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<td></td>
<td>Recovery Room/ PACU (14)</td>
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<td></td>
<td>Respiratory ICU (08)</td>
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<td></td>
<td>Stepdown Unit (30)</td>
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<tr>
<td>Subacute Care</td>
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<tr>
<td>Surgical ICU</td>
<td>(07)</td>
</tr>
<tr>
<td>Tele-ICU</td>
<td>(37)</td>
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<tr>
<td>Telemetry</td>
<td>(20)</td>
</tr>
<tr>
<td>Trauma Unit</td>
<td>(11)</td>
</tr>
<tr>
<td>Other – specify below</td>
<td></td>
</tr>
</tbody>
</table>

| Position Held                     |                                              |
|-----------------------------------|                                              |
| Academic Faculty                  | (07)                                         |
| Acute Care Nurse Practitioner (09)|                                              |
| Bedside/Staff Nurse (01)          |                                              |
| Case Manager (39)                 |                                              |
| Charge Nurse (45)                 |                                              |
| Clinic Nurse (40)                 |                                              |
| Clinical Coordinator (44)         |                                              |
| Clinical Director (04)            |                                              |
| Clinical Nurse Specialist (08)    |                                              |
| Corporate/Industry (11)           |                                              |
| Hospital Administrator (38)       |                                              |
| Internist (37)                    |                                              |
| Legal Nurse Consultant (47)       |                                              |
| Manager (03)                      |                                              |
| Nurse Anesthetist (02)            |                                              |
| Nurse Educator (46)               |                                              |
| Nurse Midwife (13)                |                                              |
| Nurse Practitioner (05)           |                                              |
| Outcomes Manager (42)             |                                              |
| Physician (16)                    |                                              |
| Physician Assistant (17)          |                                              |
| Researcher (18)                   |                                              |
| Respiratory Therapist (19)        |                                              |

| Degree                            |                                              |
|-----------------------------------|                                              |
| Associate’s Degree                | (99)                                         |
| Bachelor’s Degree                 |                                              |
| Diploma                           |                                              |
| Doctorate                         |                                              |
| Master’s Degree                   |                                              |

| Type of Facility Employed         |                                              |
|-----------------------------------|                                              |
| College/University (08)           |                                              |
| Community Hospital Nonprofit (01)|                                              |
| Community Hospital (Profit) (02)|                                              |
| Corporate/Industry (11)           |                                              |
| County Hospital (07)              |                                              |
| Federal Hospital (05)             |                                              |
| HMO/Managed Care (12)             |                                              |
| Job Health (13)                   |                                              |
| Long-Term Acute Care (16)         |                                              |
| Military/Government Hospital (04)|                                              |
| Non-Academic Teaching Hospital (14)|                                          |
| Registry (10)                     |                                              |
| Self-Employed (09)                |                                              |
| State Hospital (06)               |                                              |
| Travel Nurse (15)                 |                                              |
| University Med. Or. (03)          |                                              |
| Other – specify below             |                                              |

| Ethnicity                         |                                              |
|-----------------------------------|                                              |
| African American (02)             |                                              |
| Asian (05)                        |                                              |
| Hispanic (03)                     |                                              |
| Native American (04)              |                                              |
| Pacific Islander (06)             |                                              |
| White/Non-Hispanic (01)           |                                              |
| Other – specify below             |                                              |

| Facilities Employed              |                                              |
|-----------------------------------|                                              |
| College/University (08)           |                                              |
| Community Hospital Nonprofit (01)|                                              |
| Community Hospital (Profit) (02)|                                              |
| Corporate/Industry (11)           |                                              |
| County Hospital (07)              |                                              |
| Federal Hospital (05)             |                                              |
| HMO/Managed Care (12)             |                                              |

6. HONOR STATEMENT

Complete the Honor Statement on page 16.

7. SUBMIT APPLICATION

Attach Honor Statement to this application and submit with payment to:

AACN Certification Corporation
101 Columbia
Aliso Viejo, CA 92656-4109
or fax to: 949-362-2020

DO NOT mail AND fax your application - please choose only ONE method.

NOTE: Allow 2 to 3 weeks from the date received by AACN Certification Corporation for application processing.

Questions? Please visit www.aacn.org/certification, email certification@aacn.org or call us at 800-899-2226.

Please complete page 3 of application (honor statement).
I hereby apply for the CSC subspecialty certification exam. Submission of this application indicates I have read and understand the exam policies and eligibility requirements as documented in the CSC Exam Handbook and the Certification Exam Policy Handbook.

**LICENSURE:** I possess a current, unencumbered U.S. RN or APRN license. My __________________________ (state) nursing license ___________________ (number) is due to expire ___________________ (date). An unencumbered license is not currently being subjected to formal discipline by any state board of nursing and has no provisions or conditions that limit my practice in any way. This applies to all RN or APRN licenses I currently hold. I understand that I must notify AACN Certification Corporation within 30 days if any disciplinary action is taken against my RN or APRN license(s) in the future.

**CLINICAL NURSING SPECIALTY CERTIFICATION:** I hold a current clinical nursing specialty certification that meets AACN’s criteria, which includes but is not limited to being nationally-accredited (NCCA or ABSNC). If my specialty certification is conferred by an organization other than AACN Certification Corporation, I agree to submit proof of my certification with this application. I agree to notify AACN Certification Corporation if my specialty certification lapses. To which nationally accredited clinical nursing specialty certification would you like to tie your CSC certification?

(choose one only) □ CCRN □ CCRN-E □ PCCN □ ACNPC □ ACNPC-AG □ CCNS □ ACCNS-AG □ Other __________________

Attach proof of non-AACN certification, such as copy of wallet card or wall certificate, or verification letter from certifying organization; must be valid for 90 days beyond CSC application date.

**PRACTICE:** I have fulfilled one of the following clinical practice requirement options:

- Practice as an RN or APRN for 1,750 hours in direct care of acutely/critically ill adult patients during the past 2 years, with 875 of those hours accrued in the most recent year preceding application. Of those 1,750 hours, 875 were in the care of adult cardiac surgery patients within the first 48 hours postoperatively.

  OR

- Practice as an RN or APRN for at least 5 years with a minimum of 2,000 hours in direct care of acutely/critically ill adult patients, with 144 of those hours accrued in the most recent year preceding application. Of those 2,000 hours, 1,000 were in the care of adult cardiac surgery patients within the first 48 hours postoperatively.

Hours were completed in a U.S.-based or Canada-based facility or in a facility determined to be comparable to the U.S. standard of acute/critical care nursing practice as evidenced by Magnet® designation or Joint Commission International accreditation.

**PRACTICE VERIFICATION:** Following is the contact information of my clinical supervisor or a professional associate (RN or physician) who can verify that I have met the clinical hour requirements:

**NON-DISCLOSURE OF EXAM CONTENT:** Submission of this application indicates my agreement to keep the contents of the exam confidential and not disclose or discuss specific exam content with anyone except AACN Certification Corporation. Per AACN Certification Corporation policy, sharing of exam content is cause for revocation of certification.

To the best of my knowledge, the information contained in this application is accurate and submitted in good faith. My signature below indicates I have read this honor statement and meet the requirements as outlined.

Applicant’s Signature: ______________________________ Date: ____________________________

VERIFIER’S NAME: ________________________________ FACILITY NAME: ______________________________

You may not list yourself or a relative as your verifier.

AUDIT: I understand that my certification application is subject to audit, and failure to respond to or pass an audit will result in revocation of certification.

ETHICS: I understand the importance of ethical standards and agree to act in a manner congruent with the ANA Code of Ethics for Nurses.

**ONLINE EXAM REGISTRATION** is available at www.aacn.org/certification > Get Certified.