

## **CMC/CSC Renewal Handbook**

As a certified nurse you know that specialty and subspecialty certification validates your knowledge of nursing and demonstrates your commitment to your profession.

Please read this handbook carefully as it contains important information about renewing your subspecialty certification.

A few key things to note about renewing your CMC or CSC:

- **The most convenient way to renew by CERPs is online** at [www.certcorp.org](http://www.certcorp.org), where you can apply as early as four months before your scheduled certification renewal date. More and more certificants are finding online renewal a quick, easy way to maintain their certification.
- **You must retain evidence of your achievement of the required CERPs.** Up to three years following your scheduled certification renewal date you may be selected for audit.
- To be eligible to renew your subspecialty certification, you must hold a **current, unencumbered specialty nursing certification** that is valid for 90 days beyond your scheduled renewal date.
- Refer to the following page for **frequently asked questions** about CMC and CSC renewal.

We encourage you to renew as early as possible. We're here to support you every step of the way. Please visit our Web site at [www.certcorp.org](http://www.certcorp.org) or call us toll-free at **(800) 899-2226** if you have any questions.

**Thank you for your commitment to certification!**

## FREQUENTLY ASKED QUESTIONS ABOUT CMC AND CSC RENEWAL

### **What types of CERPs will count toward my CMC or CSC renewal?**

Twenty-five (25) Category A clinical judgment CERPs are required. These include any topic that relates to the applicable CMC or CSC test plan, available in this handbook and online at [www.certcorp.org](http://www.certcorp.org). For CMC this includes clinical judgment topics related to cardiology; for CSC this includes clinical judgment topics related to cardiac surgery.

### **May I count ACLS toward my CMC or CSC renewal?**

Yes, ACLS (initial or renewal) may be counted toward the CERPs required for CMC and/or CSC renewal but may be counted no more than once during your three-year renewal period. If selected for audit, which can happen up to three years after your renewal date, you will need to submit documentation showing the amount of time spent in the course. A copy of your ACLS card is not sufficient for audit as it does not include actual class time, which varies. Please provide documentation of hours, with course date and title, your name, and signature of a supervisor, educator or professional associate so the total number of CERPs may be calculated.

### **May I count the same CERPs toward both my specialty and subspecialty certifications?**

Yes, you may count CERPs toward both your specialty and subspecialty renewals if they occur during the applicable date range for each of your credentials. If audited for your subspecialty renewal, the CERPs being evaluated must fall within that renewal cycle and if audited for your AACN specialty certification those CERPs

would need to fall within that credential's renewal cycle.

### **Do the CCRN or PCCN Self-Assessment Exams (SAEs) count for CMC or CSC Renewal?**

No, the SAEs are broader than clinical judgment only, so they cannot be counted for the CERPs needed for CMC or CSC renewal.

### **If my specialty certification has expired may I still renew my subspecialty certification?**

No, you must hold a current clinical nursing specialty certification that is nationally accredited by the National Commission for Certifying Agencies (NCCA) or the American Board of Nursing Specialties (ABNS) in order to be eligible to renew your subspecialty certification. The specialty certification must be valid for 90 days beyond your scheduled renewal date.

### **If my specialty certification has expired may I still display my current subspecialty credential?**

No, the three-letter credentials may only be displayed with a clinical nursing specialty certification, attached by a dash (e.g., CCRN-CMC or CCNS-CSC). If you hold both subspecialty credentials you may attach the credentials to the same clinical nursing specialty certification (e.g., CCRN-CMC-CSC). If your specialty credential has expired, you may display the CMC or CSC with another eligible current specialty nursing credential. To request this change you must contact AACN Customer Care and provide proof of the current non-AACN specialty credential. Lapsed CCRNs, PCCNs, CCNSs or ACNPCs with attached subspecialty credentials will have their subspecialty certification dropped from their credential line in AACN's database, unless the certificant contacts

# CONTENTS

Application Process .....	4
Certification Program .....	6
Recognition of Certification .....	6
Renewal Eligibility .....	7
Renewal Options.....	8
• OPTION 1: Renewal by CERPs	
• OPTION 2: Renewal by Exam	
• OPTION 3: Inactive Status	
Application Fees .....	9
Name and Address Changes .....	9
Online Renewal.....	9
Renewal Audit.....	10
Revocation of Certification .....	10
Review and Appeal Process.....	11
Description of Category A CERPs .....	12
CERP Log .....	13
CMC Test Plan.....	14
CSC Test Plan .....	15
Renewal Application .....	17-18

## APPLICATION PROCESS

To ensure that your CMC or CSC Renewal Application is complete, please refer to the following:

### **An incomplete application will delay processing and require you to submit additional documentation.**

- 1. Confirm** that you have met all the eligibility requirements for CMC or CSC renewal by thoroughly reviewing this handbook.
- 2. Renew online** as soon as 120 days prior to your renewal date by visiting [www.certcorp.org](http://www.certcorp.org) and clicking on “Renew Your Certification.” Online renewal is immediate.
- 3. Or locate the Renewal Application** at the end of this handbook. **Complete all sections of the application**, on both sides, and sign (for Inactive status complete front side only) and mail to:  
  
AACN Certification Corporation  
101 Columbia  
Aliso Viejo, CA 92656  
**OR** fax application to (949) 362-2020  
  
**DO NOT mail and fax; please use one method to submit your application.**
- 4. Include application fee.** Make check payable to AACN Certification Corporation. Staple check to the upper right corner of application. If paying by credit card, provide all requested information including card expiration date.
- 5.** Those wishing to **Renew by Exam** must obtain a copy of the *Certification Exam Handbook* with exam policies and the exam application by visiting [www.certcorp.org](http://www.certcorp.org) or e-mailing [certcorp@aacn.org](mailto:certcorp@aacn.org).
- 6. Do not submit a list of CERP activities or copy of your RN or APRN license unless you are selected for audit.** If selected, you will be notified **after** your successful renewal. Certificants who successfully renew should continue to keep personal records of CERP activities for at least 3 years from their scheduled renewal date to submit in the event that an audit is performed.
- 7. If you desire verification of receipt** of your application, mail your application “return receipt requested” via certified mail.
- 8. Ensure that the application is postmarked by your scheduled certification renewal date.** Do not send a duplicate application. For example, if you fax your application do not also mail the original.
- 9. Following successful renewal, you will receive a wallet card and a certificate suitable for framing:**
  - within 3-4 weeks, if submitted online
  - within 4-6 weeks, if submitted via mail or fax

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## **CERTIFICATION PROGRAM**

### **Definition**

Certification is a process by which a nongovernmental agency validates, based upon predetermined standards, an individual nurse's qualification and knowledge for practice in a defined functional or clinical area of nursing. Approximately 50,000 nurses worldwide are presently certified in acute and critical care nursing.

Certification validates your knowledge of nursing care of acutely and critically ill patients in your specialty area to hospitals, peers, patients and, most importantly, to yourself. Certification promotes continuing excellence in acute and critical care nursing.

Certification helps you maintain an up-to-date knowledge base of acute and critical care nursing. In addition to providing you with a sense of professional pride and achievement, certification reinforces the special knowledge and experience required for acute and critical care nursing. The purpose of certification renewal is to enhance continued competence.

### **Membership Requirements**

There are no association membership requirements to participate in the CMC or CSC subspecialty certification programs.

### **Nondiscrimination Policy**

It is the policy of AACN Certification Corporation, its Board of Directors, committee members and staff to comply with all applicable laws that prohibit discrimination in employment or service provision because of a person's race, color, religion, gender, age, disability, national origin, or because of any other protected characteristic.

## **RECOGNITION OF CERTIFICATION**

Candidates who meet all eligibility requirements and have passed the CMC or CSC subspecialty certification exam may use "CMC" or "CSC" respectively after their licensing title, attached to a specialty certification. CMC and CSC are registered service marks. They are not punctuated with periods. The proper use of CMC or CSC is as follows: Chris Smith, RN, CCRN-CSC or Chris Smith, RN, PCCN-CMC.

### **Certificants who choose Inactive status may not use the corresponding credential.**

The specific program of certification will be noted on the individual's wallet identification card and certificate. A listing of CMC-certified and CSC-certified nurses will be maintained by AACN Certification Corporation and may be reported in its publications.

## RENEWAL ELIGIBILITY

Current unencumbered RN or APRN licensure in the U.S. is required. An unencumbered license has not been subjected to formal discipline by any Board of Nursing and has no provisions or conditions that limit the nurse's practice in any way. It is the responsibility of candidates and certificants to notify AACN Certification Corporation when any restriction is placed on their RN or APRN license.

Current clinical nursing specialty certification accredited by the NCCA (National Commission for Certifying Agencies) or ABNS (American Board of Nursing Specialties) is required. A nurse whose CMC or CSC certification is tied to a non-AACN specialty certification must provide proof of a specialty certification that is valid for 90 days beyond their CMC or CSC renewal date.

### CMC Renewal

For CMC renewal, practice as an RN or APRN is required for 432 hours in direct bedside care of acutely and/or critically ill cardiac patients during the three-year certification renewal period, with 144 of those hours accrued in the 12-month period prior to the scheduled renewal date.

CMC-certified nurses who work in areas such as cardiac care, combined ICU/CCU, medical ICU, telemetry, progressive care, heart failure clinics, home care, interventional cardiology, cardiac catheterization labs, electrophysiology units or home care (or other areas as appropriate) may qualify for CMC renewal.

### CSC Renewal

For CSC renewal, practice as an RN or APRN is required for 432 hours in direct bedside care of acutely and/or critically ill cardiac surgery patients within the first 48 hours post-operatively during the three-year certification renewal period, with 144 of those hours accrued in the 12-month period prior to the scheduled renewal date.

CSC-certified nurses who work in areas such as cardiothoracic surgery, cardiovascular surgery or post anesthesia care (or other areas as appropriate) may qualify for CSC renewal.

Clinical practice hours must take place in a U.S.-based or Canada-based facility or in a facility determined to be comparable by verifiable evidence to the U.S. standard of acute and critical care nursing practice, as evidenced by ANCC Magnet Status or Joint Commission International accreditation.

Nurses serving as manager, educator (in-service or academic), APRN or preceptor may apply 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 at the bedside; for example, demonstrating how to measure pulmonary artery pressures or supervising a new employee or student nurse performing a procedure.

**Please contact AACN Certification Corporation at (800) 899-2226 if you have questions about eligibility.**

The name and address of a professional associate must be given for verification of eligibility related to clinical practice hours. If you are randomly selected for audit, this associate will be contacted to verify that you have met the clinical hour requirements. A professional associate is defined as a clinical supervisor (RN or physician) or an RN colleague with whom you work (need not be certified).

AACN Certification Corporation may adopt additional eligibility requirements at its sole discretion from time to time. Any such requirements will be designed to establish, for the purposes of certification, the adequacy of a candidate's knowledge and experience in caring for the acutely and critically ill.

## RENEWAL OPTIONS

CMC and CSC certifications are conferred for a period of three years. At renewal time candidates may seek Renewal by CERPs or Renewal by Exam, or may choose Inactive status. Do not apply for more than one option. For Renewal by Exam, you must successfully apply for, schedule and complete the exam before your scheduled renewal date. It is not permissible to take the exam early and then attempt to renew by CERPs if you fail.

A CERP is a Continuing Education Recognition Point.

### OPTION 1: Renewal by CERPs

Subspecialty Renewal by CERPs is obtained by accumulating a total of 25 Category A clinical judgment CERPs. These CERPs must be accrued during the three-year certification renewal period.

For CMC, CERPs must pertain to cardiology and may include any topic on the CMC Test Plan. For CSC, CERPs must pertain to cardiac surgery and may include any topic on the CSC Test Plan. The CMC and CSC test plans are included in this handbook.

For CMC and CSC renewal, ACLS courses (initial or renewal) are acceptable for CERPs once during the three-year certification renewal period.

For free CE courses applicable for CMC and CSC renewal please visit [www.aacn.org](http://www.aacn.org) > Continuing Education.

### OPTION 2: Renewal by Exam

Meet the eligibility requirements for CMC or CSC certification renewal and successfully apply for, schedule and complete the CMC or CSC exam prior to your scheduled renewal date. To obtain a copy of the *Certification Exam Handbook* with exam policies and an application, visit [www.certcorp.org](http://www.certcorp.org) or e-mail [certcorp@aacn.org](mailto:certcorp@aacn.org).

### OPTION 3: Inactive Status

Inactive status is available to renewing certificants who do not currently meet certification renewal eligibility requirements but do not wish to lose their certification. Inactive status allows a certified nurse up to three years from their original date of

renewal to meet eligibility requirements. During the Inactive status period, you may not use the corresponding credential. Once Inactive status is granted, you may choose to reactivate anytime during the three-year Inactive status period, as long as you meet all of the established certification renewal eligibility requirements at that time. Inactive status does not allow the certified nurse six years to meet the requirements (the original certification renewal period plus the Inactive status period).

**The eligibility requirements must be accrued within a three-year period** with 144 of the 432 bedside clinical hours caring for cardiac patients accrued in the most recent year preceding reactivation. Subspecialty certification will be reinstated upon submission of a completed application and renewal fee.

You may choose to reactivate as soon as you meet the renewal criteria. Again, your eligibility requirements must be met within the three-year period just prior to submitting your application to reactivate. To calculate, count back three years from the date that you submit your active status renewal application.

#### FOR EXAMPLE

Mary Jones decides to apply for Inactive status on her scheduled renewal date of February 1, 2010. She completes a home study course acquiring the needed CERPs by May 1, 2010 and would now like to reactivate. Eligible CERPs and clinical hours must have been completed between May 1, 2007 and April 30, 2010.

**You may not hold Inactive status for two consecutive renewal periods.**

To request Inactive status, complete the front side only of the Subspecialty Certification Renewal Application, select the Inactive status category, and sign and date. If you do not reactivate prior to 120 days before the end of your three-year Inactive status period, you will be notified via e-mail and by mail to refer to the most recent version of the *CMC/CSC Renewal Handbook* and to renew online.

## APPLICATION FEES\*

### Renewal by CERPs

AACN Members	\$60
Nonmembers	\$100

### Renewal by Exam

AACN Members	\$110
Nonmembers	\$155

### Inactive Status

AACN Members	\$55
Nonmembers	\$145

\*Payable in U.S. funds. Fees subject to change without notice.

Application fees are for processing and are non-refundable. A \$15 fee will be charged for returned checks.

AACN Certification Corporation is not responsible for timely performance by the post office, for Internet reliability or for correspondence lost in the mail.

AACN offers a special three-year discounted membership price of \$179.35 to certificants. You save an additional 15% from the already reduced three-year membership fee. Just check the box for "Renewal + Three-Year Membership" on the application.

## NAME AND ADDRESS CHANGES

It is the certificant's responsibility to notify AACN Certification Corporation of any changes in name and/or address during the certification period. Failure to do so may result in not receiving information necessary for certification renewal.

AACN Certification Corporation is not responsible for timely performance by the post office, for Internet reliability or for correspondence lost in the mail.

You may update your AACN customer profile online at [www.aacn.org](http://www.aacn.org) or send an e-mail to [info@aacn.org](mailto:info@aacn.org).

## ONLINE RENEWAL

Candidates may apply for certification renewal online at [www.certcorp.org](http://www.certcorp.org) (click on "Renew Your Certification") OR via a paper application. The completed paper renewal application must be postmarked by the scheduled certification renewal date.

Online Renewal by CERPs is available to all active CMC and CSC certificants. Online renewal allows a candidate to submit an application and credit card payment for renewal via a secure Internet connection.

To apply for renewal online, visit [www.certcorp.org](http://www.certcorp.org) and click on "Renew Your Certification." Follow the detailed instructions listed.

As a certificant, you already exist in AACN's customer database. Therefore, do NOT create a new account or you will have a duplicate record and your renewal will not be processed.

Access your existing AACN account as follows:

- Your **Login ID Number** is your AACN Customer Number (NOT your CCRN number, if you have a separate one) or e-mail address.
- Your **AACN Customer Number** can be found on your most recent renewal notice. If you are a current or past member of AACN, your AACN Customer Number appears on your membership card.
- Your initial **password** is the first 15 letters of your last name. You will be able to change your password once you log in.
- You will be able to **verify and update your account information** during the online process by clicking on "My Account." Make sure your mailing address is current in order to receive your card and certificate.
- **Provide your e-mail address** to receive confirmation of your renewal and to facilitate our communication with you.

*continued*

Online renewal candidates will receive their new card and certificate within three-four weeks.

Once you have successfully renewed online, you will be subject to the same audit process as any other randomly selected certificant; therefore, you are advised to maintain records of your CERP activities for three years after your scheduled renewal date.

## **RENEWAL AUDIT**

In compliance with standard regulatory practices, AACN Certification Corporation conducts random audits following submission of renewal applications.

Certificants are not notified in advance when being audited.

Audits are conducted randomly after the certificant's successful renewal. Certificants selected for audit are notified via mail and have a period of 60 days to submit the required verification materials, i.e., copy of RN or APRN license, course certificates, letter verifying clinical hours, etc. If materials are not submitted to AACN within 60 days, subspecialty certification may be revoked and notices may be sent to the candidate's employer and state board of nursing, where appropriate.

Certificants who successfully complete CMC or CSC renewal should continue to keep personal records of CERP activities for at least three years from their scheduled renewal date to submit in the event that an audit is performed. A CERP Log, to be submitted only if audited, is included in this handbook. AACN Certification Corporation reserves the right to conduct additional audits as necessary.

## **REVOCAION OF CERTIFICATION**

AACN Certification Corporation may revoke certification, or renewal of certification may be denied, for any reason deemed appropriate including, but not limited to, the following:

- Falsification of the certification application
- Falsification of the certification renewal application
- Falsification of any information requested by AACN Certification Corporation
- Failure to maintain eligibility requirements
- Failure to pay fees
- Failure to meet deadlines
- Failure to respond to or pass an audit
- Misrepresentation of certification status
- Conviction of a felony
- Cheating (or reasonable evidence of intent to cheat) on the exam
- Restrictions placed on RN or APRN licensure. A restriction free license is one that has not been subject to formal discipline by any Board of Nursing and has no provisions or conditions that limit the nurse's practice in any way.

In the event of revocation, notification may be sent to the candidate's employer and state board of nursing where applicable. The candidate may be notified that he/she is prohibited from reapplying for the CMC or CSC exam for a period of up to three years. Fees paid for certification renewal are not refunded.

## REVIEW AND APPEAL PROCESS

The review and appeal process is available to individuals whose subspecialty certification status has expired, been denied or revoked. The review process is conducted by the staff of AACN Certification Corporation and the appeal process by the volunteer Appeals Panel.

For questions about the review and appeal process, please call AACN Certification Corporation at (800) 899-2226.

You may request a review of your CMC or CSC eligibility at any time.

Please send your written request for review to:

**Certification Specialist**  
**AACN Certification Corporation**  
**101 Columbia**  
**Aliso Viejo, CA 92656**

Or via e-mail to: [certification@aacn.org](mailto:certification@aacn.org).

Following the review process, if AACN Certification Corporation staff affirms the decision to deny or revoke certification, the candidate will be sent a Request for Appeal form and detailed information about the appeal process. Upon return of the form, the Appeals Panel will review the case at its next scheduled appeal review. The decision of the Appeals Panel shall be final.

If you do not meet the AACN Certification Corporation experience component of the clinical practice eligibility requirement but believe your practice conforms to the intent, if not the precise content and definition of the experience requirement, you may appeal. Typing or printing legibly, describe your clinical practice and how it conforms to the certification program.

Candidates will be notified in writing of the Appeals Panel's decision.

## CMC OR CSC RENEWAL BY CERPS

For Renewal by CERPs, a total of 25 CERPs (Continuing Education Recognition Points) pertaining to cardiology (CMC) or cardiac surgery (CSC) is required during the three-year certification renewal period. Applicable topics include those listed on the CMC or CSC test plan included in this handbook.

### CATEGORY A CERPS

#### ACUTE AND CRITICAL CARE EDUCATION PROGRAMS

A minimum of 25 Category A clinical judgment CERPs pertaining to cardiac medicine (for CMC) or cardiac surgery (for CSC) are required per three-year certification renewal period.

#### Description of Activities

This category encompasses acute and critical care cardiac programs granting contact hours or CERPs. These programs must address subjects that have direct application to the needs of acutely or critically ill cardiac patients.

Ongoing learning topics may be in-services or CEs related to a clinical judgment topic on the corresponding test plan. Topics must have direct application to the needs of acutely and/or critically ill cardiac (for CMC) or cardiac surgery (for CSC) patients.

Applicable topics include those listed on the CMC or CSC test plan, included in this handbook.

ACLS courses (initial or renewal) are acceptable for CERPs once during the three-year renewal period.

Programs need NOT be approved by the American Association of Critical-Care Nurses and may be offered by hospitals, professional associations or independent education groups.

Home-study or self-study programs from professional journals or other sources that grant contact hours may be counted as long as they are focused on the care of acutely or critically ill cardiac patients (for CMC) or cardiac surgery patients (for CSC).

For free CE courses applicable for CMC and CSC renewal, visit [www.aacn.org](http://www.aacn.org) > Continuing Education.

#### CERPs Awarded

The program must define a continuing education credit as one (1) contact hour, which is equivalent to one (1) CERP, or the program must use the recognized value of CERP.

#### Acceptable Proof for CERPs

If selected for audit, submit a photocopy of your CE certificate. The Continuing Education (CE) certificate must contain your name, date(s) of attendance, title of course and contact hours. If the program was not formally granted contact hours, submit the following: written verification of attendance, including name of participant, date(s) of attendance, title and hours of course (minus breaks and lunch), signed by educator or course director. A copy of your ACLS card is not sufficient for audit as it does not include actual class time, which varies. Please provide documentation of hours, with course date and title, your name, and signature of a supervisor, educator or professional associate so the total number of CERPs may be calculated.

#### HOW TO CALCULATE CERPS

Continuing Education Recognition Points (CERPs) are calculated according to the educational contact hour for seminars or lectures. For purposes of certification renewal, **1 CERP is equal to 1 contact hour**. CERPs are not awarded for registration, introductions, breaks, lunch or clinical time. CERPs are not awarded for completion of certification exams offered by other organizations. For example, if you attended an educational program and earned 6 contact hours, 6 CEs or 6 CMEs, then 6 CERPs would be awarded for this program.

For Academic Credit Courses, CERPs are assigned as follows:

- In a semester system, one semester unit credit, one semester hour or one credit is worth **15 CERPs**.
- In a quarter system, one quarter unit credit, one quarter hour or one credit is worth **10 CERPs**.
- In a trimester system, one trimester unit credit is worth **12 CERPs**.

# CMC OR CSC RENEWAL CERP LOG

**Do NOT Submit Unless Being Audited!**

Name: \_\_\_\_\_ AACN Customer Number: \_\_\_\_\_  
LAST                      FIRST                      MIDDLE

Certification Renewal by CERPs Requirements Renewal Period: \_\_\_\_\_  
FROM                      TO

Candidates seeking **CMC** or **CSC** certification renewal status must accumulate 25 Category A clinical judgment CERPs (Continuing Education Recognition Points) within the three-year period prior to the scheduled certification renewal date in order to maintain active certification status. For CMC, CERPs must pertain to cardiology. For CSC, CERPs must pertain to cardiac surgery. Applicable topics include those listed on the appropriate CMC or CSC test plan, included in this handbook. ACLS courses (initial or renewal) are acceptable for CERPs once during the three-year renewal period.

## DIRECTIONS

Print or type all information legibly. This form may be photocopied. Keep this log for your records to submit if audited.

If selected for audit, please attach all documents verifying continuing education activities, in the order listed, to this form. Do not submit originals. Submit all documentation to:  
AACN Certification Corporation, 101 Columbia, Aliso Viejo, CA 92656

## Category A

Minimum of 25 clinical judgment CERPs

Ongoing learning topic may be in-services or CEs related to a clinical judgment topic on the corresponding test plan. Topics must have direct application to the needs of acutely and/or critically ill cardiac (for CMC) or cardiac surgery (for CSC) patients.

Ongoing Learning Topic <small>(Title of Program or Activity)</small>	Date(s)	Sponsoring Organization	Semester, Quarter or Trimester Credits	CERPs Awarded	Office Use
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
<b>TOTALS</b>					

By signing below I affirm that the information listed on this CERP Log is true and correct.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_

# CARDIAC MEDICINE CERTIFICATION (CMC) TEST PLAN

## 1. CARDIOLOGY PATIENT PROBLEMS (43%)

### A. Acute Coronary Syndrome (8%)

1. Unstable angina
2. ST segment elevation myocardial infarction
3. Non-ST segment elevation myocardial infarction

### B. Dysrhythmias (11%)

1. Malignant ventricular dysrhythmias
2. Dysrhythmias
  - a. bradydysrhythmias
  - b. tachydysrhythmias
  - c. conduction defects and blocks

### C. Other Cardiology Issues (24%)

1. Papillary muscle rupture
2. Ventricular septal rupture
3. Ventricular aneurysm
4. Heart failure
  - a. acute exacerbation
  - b. chronic
5. Pulmonary edema
6. Cardiomyopathy (e.g., hypertrophic, dilated, restrictive)
7. Valvular heart disease
8. Cardiac tamponade
9. Blunt cardiac trauma
10. Cardiogenic shock
11. Acute inflammatory disease (e.g., myocarditis, endocarditis, pericarditis)
12. Acute peripheral vascular insufficiency
  - a. acute arterial occlusion
  - b. carotid artery stenosis
  - c. venous thrombosis
13. Sudden cardiac death
14. Hypertension
15. Pulmonary hypertension
  - a. primary
  - b. secondary (e.g., valvular disease, COPD, acute hypoxemia defects, congenital defects)
16. Congenital heart disease in adults

## 2. OTHER PATIENT PROBLEMS (16%)

### A. Pulmonary (7%)

1. Acute pulmonary embolus
2. Acute Respiratory Distress Syndrome (ARDS)
3. Acute respiratory failure
4. Cor pulmonale
5. Inotropic problems related to line insertion and ventilator management (e.g., air-leak syndromes including pneumothorax, pneumopericardium, pneumomediastinum, ventilator-associated pneumonia, volutrauma and barotraumas)

### B. Endocrine (3%)

Diabetes mellitus

### C. Hematology (1%)

Life-threatening coagulopathies (e.g., heparin-induced thrombocytopenia, platelet inhibitors, anticoagulants)

### D. Neurology (1%)

Stroke (e.g., ischemic, hemorrhagic)

### E. Renal (4%)

1. Acute renal failure (may be related to cardiac failure)
2. Electrolyte imbalances (e.g., potassium, sodium, phosphorus, magnesium, calcium; may include imbalances not caused by renal problems)

## 3. NURSING INTERVENTIONS (21%)

### A. Cardiology Interventions (16%)

1. Percutaneous coronary interventions (e.g., PTCA, stents, lasers)
2. Cardiac surgery, except immediate post-operative care (e.g., valve repair, valve replacement, CABG, aneurysm)
3. Cardiovascular pharmacology
4. Assist devices - intraaortic balloon pump
5. Dysrhythmia interventions
  - a. pacemakers
  - b. ICDs (e.g., defibrillation)
  - c. ablation
6. CPAP/BiPAP (e.g., heart failure, sleep apnea)

### B. Pulmonary Interventions (5%)

1. Pulmonary pharmacology
2. Ventilators

## 4. MONITORING (20%)

### A. Cardiology Monitoring (15%)

1. Invasive hemodynamic monitoring (e.g., pulmonary artery catheter)
2. ECG monitoring
  - a. dysrhythmia
  - b. ischemia
3. Blood studies (e.g., BNP, cardiac biomarkers, coagulation studies, chemistries)

### B. Pulmonary Monitoring (5%)

1. ABGs
2. Mixed venous gases
3. Oxygen saturation

# CARDIAC SURGERY CERTIFICATION (CSC) TEST PLAN

## 1. PATIENT PROBLEMS (52%)

### A. Cardiothoracic Surgery (32%)

1. Cardiac arrhythmias (e.g., post-operative atrial fibrillation)
2. Patients who have had cardiopulmonary bypass
3. Complications of cardiac surgery
  - a. Tamponade
  - b. post-operative bleeding
  - c. coagulopathy (e.g., DIC, HITTS, ReoPro-induced, heparin rebound)
  - d. open chest wound from the operating room
4. Abnormal pulsus paradoxus
5. Myocardial stunning/hibernation
6. Patients who have had surgery of the thoracic aorta
7. Patients who have had surgical treatment of
  - a. cardiac rhythm disorders (e.g., MAZE procedure/modified MAZE)
  - b. coronary artery disease
8. Patients with off-pump coronary artery bypass (OPCAB)
9. Patients who have had minimally invasive cardiac surgery
10. Patients who have had heart valve surgery involving
  - a. surgical repair
  - b. surgical replacement
11. Radial artery as an alternate arterial conduit

### B. Pulmonary (5%)

1. Acute respiratory failure related to phrenic nerve damage
2. Air-leak syndromes (e.g., pneumopericardium, pneumomediastinum)
3. Pleural effusions
4. Atelectasis (e.g., left lower lobe)

### C. Hematology (3%)

1. Inflammatory response (e.g., hyperdynamic state without documented infection)
2. Anaphylaxis (e.g., protamine reaction)

## D. Neurology/Gastrointestinal (7%)

1. Encephalopathy (e.g., hypoxic-ischemic, metabolic)
2. Post-operative impaired cognition
3. Stroke (e.g., embolic, hemorrhagic)
4. Post-pump hepatic failure

### E. Renal (5%)

1. Acute renal failure/insufficiency/azotemia
2. Life-threatening electrolyte imbalances (e.g., potassium, sodium, phosphorus, magnesium, calcium; may include imbalances not caused by renal problems; many imbalances caused by pump)

## 2. NURSING INTERVENTIONS (48%)

- A. Antidysrhythmics
- B. Vasodilators
- C. Vasopressors
- D. Fluid volume management specific to cardiac surgery
- E. Hemodynamic monitoring (e.g., standard pulmonary artery catheter, SvO<sub>2</sub> catheter, intermittent mixed-venous sample interpretation)
- F. Incision assessment and management
- G. Pain management
- H. Epicardial pacing
- I. Intraaortic balloon pump
- J. Mediastinal drainage (characteristics of drainage and normal amounts)
- K. Emergent reopening of the chest
- L. Assist with internal defibrillation
- M. Ventilator management/weaning/ABG interpretation
- N. Management of hyperglycemia and hypoglycemia
- O. Management of recovery from anesthesia

AACN  
CERTIFICATION  
CORPORATION

*Certification Organization for the American Association of Critical-Care Nurses*  
101 Columbia, Aliso Viejo, CA 92656  
(800) 899-2226

AACN Certification Corporation updates the information, fees and requirements listed in this handbook on a regular basis. Certificants are responsible for utilizing the most current handbook available.

Please refer to [www.certcorp.org](http://www.certcorp.org) for the most current information.



**CMC OR CSC RENEWAL: VERIFICATION OF CLINICAL PRACTICE AND RN LICENSURE**

This side is NOT applicable for Inactive status.

**Hours**

A registered nurse applying for CMC or CSC renewal must have been actively involved in the bedside care of acutely or critically ill cardiac patients (for CMC) or cardiac surgery patients in the first 48 hours postoperatively (for CSC). Bedside care is defined as providing hands-on care of acutely or critically ill cardiac patients. A minimum of 432 hours during the three-year certification renewal period, with 144 hours of those hours accrued in the last year of the certification renewal period, is required. Eligible hours are those spent caring for **adult** cardiac patients.

**Verification****PRINT NAME OF SUPERVISOR / CO-WORKER VERIFYING REQUIREMENTS:**


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Last                      First

**ADDRESS OF SUPERVISOR / CO-WORKER:**


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City                      State                      ZIP

**PHONE:****E-MAIL:****Honor Statement**

I, \_\_\_\_\_ (PRINT NAME), hereby apply for **CMC CSC** (circle one only) certification renewal offered by AACN Certification Corporation. I understand that certification depends upon the successful completion of the specified requirements. I further understand that the information acquired in the certification process may be used for statistical purposes and for evaluation of the certification program.

I have fulfilled the clinical practice requirement of 432 hours of direct bedside care of acutely or critically ill **adult** cardiac patients (for CMC) or cardiac surgery patients in the first 48 hours post-op (for CSC) within the previous three-year certification renewal period, with 144 of those hours accrued in the 12-month period preceding my scheduled renewal date, as described above; and possess a current unencumbered U.S. license to practice as an RN or APRN in the state of \_\_\_\_\_. My RN or APRN license number is \_\_\_\_\_; expiration date is \_\_\_\_\_. I agree to notify AACN Certification Corporation if any disciplinary action is taken against my RN or APRN license in the future.

I hold the following current nationally accredited (NCCA and/or ABNS) clinical nursing specialty certification: CCRN    PCCN    CCNS  
ACNPC    \*Other \_\_\_\_\_ (\*attach proof of non-AACN certification, e.g., copy of wallet card or certificate, or verification letter from certifying organization; certification must be valid for 90 days beyond date renewal application is signed.)

I have completed a total of 25 Category A clinical judgment CERPs pertaining to cardiac medicine (for CMC) or cardiac surgery (for CSC) within the three-year certification renewal period, in accordance with AACN Certification Corporation Renewal by CERPs requirements. I will retain records of my CERP activities for three years after my scheduled renewal date to submit in the event that I am audited by AACN Certification Corporation.

To the best of my knowledge, the information contained in this application is true, complete, correct and is made in good faith. I understand information supplied is subject to audit and failure to respond to a request for further information may be sufficient cause for AACN Certification Corporation to bar me from the exam, to invalidate the results of my exam, to withhold certification, to revoke certification, or to take other appropriate action.

**Applicant's Signature****Date**


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Annual membership dues includes a nonrefundable payment for a 1-year subscription to *Critical Care Nurse* (\$12) and *American Journal of Critical Care* (\$15). The AACN membership list is sold periodically to other organizations that wish to send information regarding various educational courses, publications, and other products or services that are presumed to be of interest to acute and critical care practitioners. AACN carefully screens such requests to ensure these offerings are appropriate and in good taste. If you do not want us to provide your name to other companies for the purpose of receiving these marketing offers, please indicate your preference here.

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

**Note: Please allow 4-6 weeks from the date received by AACN Certification Corporation for the processing of your application.**

For questions, please call us at (800) 899-2226 or visit us online at [www.certcorp.org](http://www.certcorp.org).