Assessment of Operative Skills

Aortic Valve Replacement

Evaluator:  Subject:
Rotation:  Program:

AOS is designed to evaluate objectively the proficiency of the resident in the critical components of the selected operation. The order presented here is designed to facilitate evaluation, and not to imply conduct of the operation. Similar components are grouped together for ease of evaluation or to assist in grouping of skills to assist the resident in improving specific technical skills. Use the term N/A if not applicable.

<table>
<thead>
<tr>
<th>ACGME COMPETENCIES:  MEDICAL KNOWLEDGE</th>
<th>SKILL ASSESSED:  OPERATIVE SURGICAL JUDGEMENT; PSYCHOMOTOR SKILL</th>
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1) **Selects location and performs aortotomy.**

<table>
<thead>
<tr>
<th>Novice</th>
<th>Beginner</th>
<th>Competent</th>
<th>Proficient</th>
<th>Expert</th>
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**Novice:** Identifies aorta.

**Beginner:** With guidance, identifies appropriate location for arteriotomy.

**Competent:** Identifies two or more options for arteriotomy and selects best location.

**Proficient:** With minimal prompting, identifies best location for arteriotomy and performs arteriotomy to expose aortic valve.

**Expert:** Spontaneously and without prompting, identifies the best location for arteriotomy, selects technique of arteriotomy and location and performs; optimally exposes aortic valve.


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<thead>
<tr>
<th>ACGME COMPETENCIES:  MEDICAL KNOWLEDGE</th>
<th>SKILL ASSESSED:  KNOWLEDGE RELATED TO OPERATIVE SURGICAL TECHNIQUE</th>
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2) **Identifies leaflets and anatomic relationships.**

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<tr>
<th>Novice</th>
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<th>Expert</th>
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**Novice:** Unable to name aortic leaflets.

**Beginner:** With guidance, identifies leaflets anatomic relations.

**Competent:** Names aortic leaflets; understands immediate anatomic relationships.

**Proficient:** With minimal prompting, names aortic leaflets; understands surrounding anatomic relationships and implications for valve replacement.

**Expert:** Spontaneously and without prompting, names aortic leaflets; understands surrounding anatomic relationships and implications for valve replacement.

Comments
3) **Identifies location of conduction system.**

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<th>Novice</th>
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**Novice:** Unable to locate conduction system.  
**Beginner:** With guidance, identifies location of conduction system.  
**Competent:** Identifies location of conduction system.  
**Proficient:** Understands location of the conduction system and the consequences of conduction system injury.  
**Expert:** Spontaneously and without prompting, understands location of conduction system with respect to the operation being performed and the valve replacement techniques in use; protects conduction system through various means.

**ACGME COMPETENCIES:** PATIENT CARE; MEDICAL KNOWLEDGE  
**SKILL ASSESSED:** PSYCHOMOTOR SKILL

4) **Performs excision / debridement of native valve.**

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**Novice:** Excises native valve in an unsafe manner; may achieve aortoventricular dissociation.  
**Beginner:** With some difficulty, sizes aortic valve.  
**Competent:** Safely debrides native valve; articulates complications.  
**Proficient:** Selects technique of valve debridement, and performs valve debridement; avoids applications of valve debridement.  
**Expert:** Spontaneously and without prompting, identifies technique of aortic valve debridement, performs aortic valve debridement safely in a variety of circumstances, protects surrounding structures.

**ACGME COMPETENCIES:** PATIENT CARE; MEDICAL KNOWLEDGE  
**SKILL ASSESSED:** PSYCHOMOTOR SKILL; KNOWLEDGE RELATED TO OPERATIVE SURGICAL TECHNIQUE

5) **Assesses size of root and indications for root enlargement.**

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**Novice:** Unable to size aortic valve.  
**Beginner:** With some difficulty, sizes aortic valve.  
**Competent:** Accurately sizes aortic valve.  
**Proficient:** With minimal guidance, sizes aortic valve annulus, evaluates the valve choices available, decides whether aortic root should be enlarged or not.  
**Expert:** Spontaneously and without prompting, sizes aortic valve annulus, evaluates the valve choices available, decides whether aortic root should be enlarged or not; accurately describes and independently performs technique of aortic root enlargement.
enlargement.

ACGME COMPETENCIES: MEDICAL KNOWLEDGE
SKILL ASSESSED: KNOWLEDGE RELATED TO OPERATIVE SURGICAL TECHNIQUE

6) Describes and justifies choice of replacement valve.

Novice: Unable to articulate rationale for choice of replacement valve.
Beginner: Articulates various appropriate valve choices; however, cannot articulate an optimal valve choice for the individual patient.
Competent: Chooses a safe replacement valve appropriate for patient's condition and parameters.
Proficient: Chooses an optimal valve replacement and with minimal prompting, articulates the specific characteristics of the patient and valve leading to this valve selection.
Expert: Spontaneously and without prompting, selects optimal replacement valve; identifies the advantages and disadvantages of this particular valve over other choices.

ACGME COMPETENCIES: PATIENT CARE; MEDICAL KNOWLEDGE
SKILL ASSESSED: PSYCHOMOTOR SKILL

7) Places sutures.

Novice: Unable to place sutures; uncoordinated.
Beginner: Difficulty placing sutures.
Competent: Places annulus sutures safely with guidance.
Proficient: Places annulus sutures safely with minimal guidance.
Expert: Spontaneously and without prompting, places annulus sutures in a safe and appropriate manner in preparation for seating the valve.

ACGME COMPETENCIES: PATIENT CARE; MEDICAL KNOWLEDGE
SKILL ASSESSED: PSYCHOMOTOR SKILL; KNOWLEDGE RELATED TO OPERATIVE SURGICAL TECHNIQUE

8) Positions and seats the valve.

Novice: Unable to articulate rationale for choice of replacement valve.
Beginner: Articulates various appropriate valve choices; however, cannot articulate an optimal valve choice for the individual patient.
Competent: Chooses a safe replacement valve appropriate for patient's condition and parameters.
Proficient: Chooses an optimal valve replacement and with minimal prompting, articulates the specific characteristics of the patient and valve leading to this valve selection.
Expert: Spontaneously and without prompting, selects optimal replacement valve; identifies the advantages and disadvantages of this particular valve over other choices.
**Novice:** Unable to position or seat the valve safely.
**Beginner:** Difficulty in positioning and seating the valve safely.
**Competent:** With guidance, positions the valve appropriately for the coronary and annulus anatomy.
**Proficient:** With minimal guidance, positions the valve appropriately for the coronary and annulus anatomy; sizes the valve appropriately.
**Expert:** Spontaneously and without prompting, places the valve in an optimal anatomic position within the annulus; sutures are secured to create a hemostatic annulus.

**ACGME COMPETENCIES: PATIENT CARE; MEDICAL KNOWLEDGE**
**SKILL ASSESSED: PSYCHOMOTOR SKILL; KNOWLEDGE RELATED TO OPERATIVE SURGICAL TECHNIQUE**

9) **Tests valve function.**

Novice: Cannot articulate mechanisms to test the valve function; unable to identify if valve is placed in a safe or secure manner.
Beginner: Difficulty articulating mechanisms to test the valve function and identify if valve is placed in a safe or secure manner.
Competent: With guidance, identifies a safely functioning valve after placement.
Proficient: With minimal guidance, identifies a safely functioning valve after placement.
Expert: Spontaneously and without prompting, describes and tests the optimal results of the patient's aortic valve replacement; with the valve placed in an accurate, safe, and anatomically optimal position using a variety of observation, physiologic, and echocardiographic techniques.

10) **EARLY CONCERN**
* (comments required if any early concern)

YES, Critical Incident YES, Series of Red Flags Yes, General Impression NO

Overall Comments:

Remaining Characters: 5000

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