

## Society for Vascular Surgery implementation of clinical practice guidelines for patients with an abdominal aortic aneurysm: Repair of an abdominal aortic aneurysm

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### BACKGROUND

- The optimal timing of abdominal aortic aneurysm (AAA) repair is based on clinical presentation and aneurysm status:
  - A ruptured AAA requires emergent repair.
  - A symptomatic, nonruptured aneurysm is best treated urgently.
  - An asymptomatic AAA can be treated electively after completion of preoperative assessment.
- The choice of endovascular or open surgical repair for elective treatment of AAA should be individualized with appropriate consideration of:
  - Anatomic suitability for endovascular aneurysm repair (EVAR).
  - Comorbidities and physical fitness.
  - Life expectancy.
  - Compliance with postoperative surveillance.
  - Patient preference.

### SURGICAL APPROACH

- If anatomically feasible, EVAR is recommended for treatment of a ruptured AAA (grade 1C), with a suggested door-to-intervention time of less than 90 minutes (Good Practice Standard) (Fig).<sup>1</sup>
- Open surgical repair (OSR) should be considered for elective treatment of AAA when:
  - The aortic anatomy does not meet recommended indications for use for commercially available EVAR devices.

- The estimated life expectancy exceeds 10 to 15 years.<sup>2</sup>

### RATIONALE

- Observational studies report short- and mid-term survival benefit for patients with a ruptured AAA treated by EVAR as compared with OSR,<sup>3</sup> but caution is required in inferring causality.
- The perioperative survival benefit associated with EVAR for ruptured AAA has not been supported by randomized, controlled trials.
- EVAR for elective AAA treatment is associated with decreased mortality and morbidity, and faster recovery, but a greater incidence of late reintervention and without a late survival benefit as compared with OSR.<sup>4</sup>

### PRACTICE-BASED IMPLEMENTATION STRATEGY

- The implementation of a treatment algorithm for the management of ruptured AAA is associated with a significant decrease in 30-day mortality.<sup>5</sup>
- Healthcare systems should consider the implementation of a structured, multidisciplinary triage protocol for the emergent management of ruptured AAA or rapid transfer to an EVAR-capable facility, if there are no contraindications to transfer (Figure).

### COMMENTARY AND FUTURE DIRECTIONS

- Several scoring systems claim accurate predictions of thirty day mortality after ruptured AAA.<sup>6</sup>
- The validation of a risk assessment tool to predict treatment futility for ruptured AAA would inform:
  - Patient-centered communication and shared decision-making.
  - Cost-effective allocation of healthcare resources.
- The Vascular Study Group of Northern New England risk calculator predicts in-hospital mortality after elective AAA repair and has been externally validated.
  - The Vascular Study Group of Northern New England risk calculator should be implemented routinely to facilitate patient-centered communication and shared decision-making, particularly for those patients with a calculated high mortality risk and limited life expectancy.<sup>7</sup>

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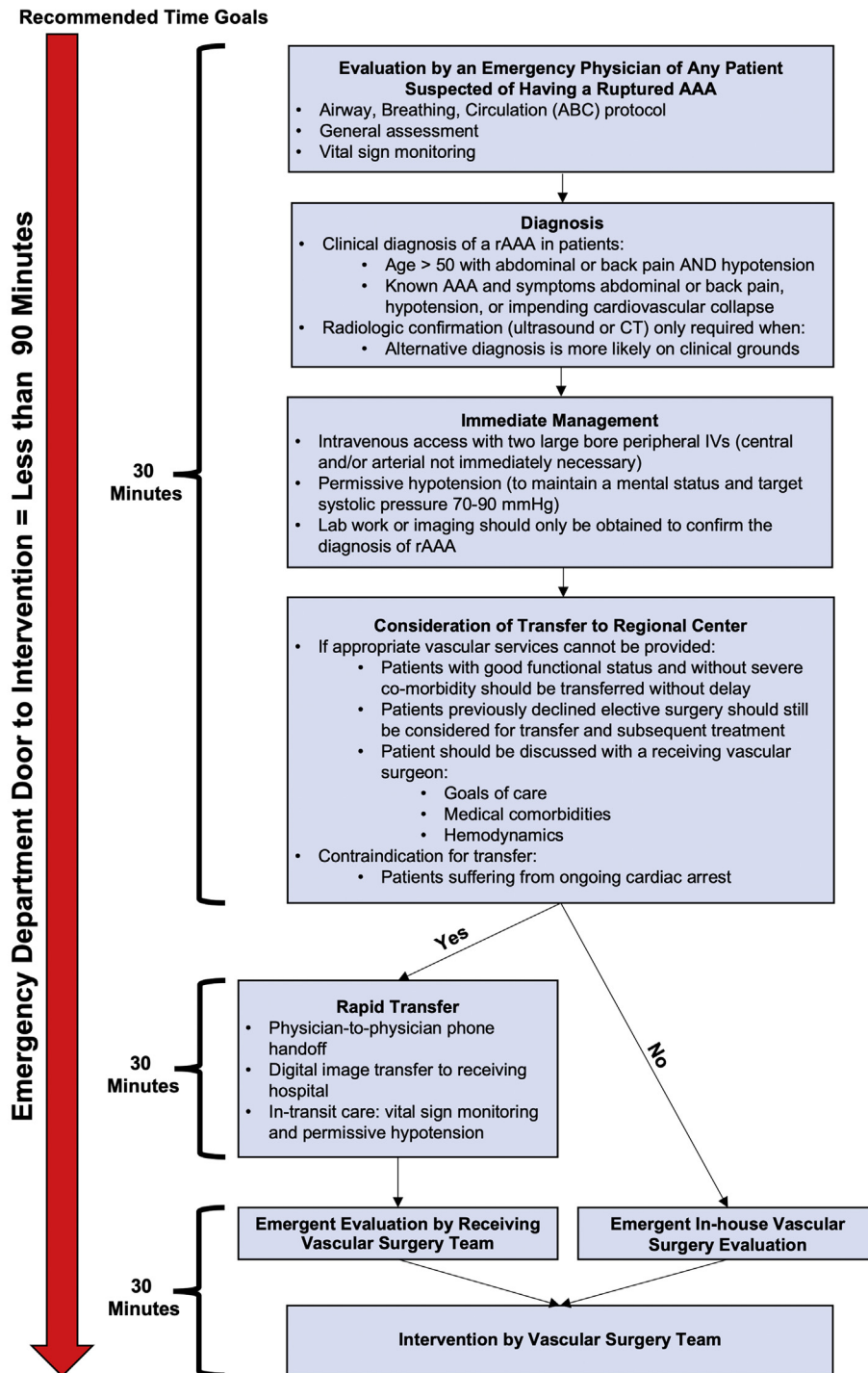
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## Suspected Ruptured Abdominal Aortic Aneurysm (rAAA) Algorithm



**Fig.** Ruptured abdominal aortic aneurysm system of care. CT, computed tomography.

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