

Aortic Aneurysm

This pathway is about new or existing aortic aneurysms

[Disclaimer](#)

Contents

Contents	1
Background	1
About aortic aneurysms.....	1
Red flags.....	2
Assessment	2
Risk of rupture.....	2
Ruptured aortic aneurysm.....	2
Risk factors.....	2
Blood tests.....	2
Management	3
Symptoms of AAA rupture.....	3
Referral	4
Information	4
For health professionals.....	4
For patients.....	4
Sources.....	4

Background

About aortic aneurysms

- *Most aortic aneurysms are detected as an incidental finding, either by examination, or from a scan.*
- *Most have no symptoms.*
- *The normal diameter of the abdominal aorta is 20 mm. An aneurysm is defined as a diameter > 30 mm.*
- *The risk of rupture is influenced by several factors, but size is the most important predictor. Rate of expansion and gender are also important.*
- *The risk increases markedly once the diameter is > 55 mm.*
- *Those with aortic aneurysms are at increased risk of cardiovascular morbidity and mortality.*

Red flags

- Present or suspected aortic dissection
- Present or suspected dissection or rupture of abdominal or thoracic aortic aneurysm
- Present or suspected symptomatic abdominal or thoracic aortic aneurysm (abdominal or back pain, limb ischaemia)

Assessment

1. Ask about symptoms of increasing aneurysm size or **risk of rupture**.

Risk of rupture

- *Pain in the:*
 - *chest or epigastrium – thoracic aneurysm.*
 - *abdomen – abdominal aneurysm.*
 - *groin – common iliac or femoral artery aneurysm*
- *Pulsatile mass in abdomen*

2. Assess for symptoms of **ruptured aortic aneurysm**.

Ruptured aortic aneurysm

Classic clinical triad:

- *Pain – typically severe and predominantly located in the back, but groin, flank, or abdominal pain or sciatica is possible.*
- *Hypotension or circulatory collapse.*
- *Pulsatile mass – may be difficult to appreciate in the obese in the presence of guarding.*

3. Take a history of aneurysm **risk factors** and calculate [absolute cardiovascular disease risk](#).

Risk factors

- *Aged > 65 years*
- *Male*
- *Hypertension*
- *Smoker*
- *First-degree relative with abdominal aortic aneurysm*

Risk assessment tools give a "one-off" estimate of risk before starting treatment. Once treatment is started, the accuracy is reduced.

4. Arrange investigations:
 - Ultrasound:
 - Transthoracic echocardiogram for ascending aorta and descending thoracic aorta
 - Abdominal ultrasound for abdominal aorta
 - CT scan – required to confirm and surveil thoracic aneurysms
 - **Blood tests**

Blood tests

- *Fasting lipids*
- *Fasting glucose*
- *FBE*
- *Renal function*

Management

1. If symptoms of **ruptured aortic aneurysm**, phone **000** to arrange transfer to the Emergency Department for [immediate vascular surgery referral or admission](#). Gain IV access and start resuscitation if fluids are available.

Symptoms of AAA rupture

Classic clinical triad:

- *Pain – typically severe and predominantly located in the back, but groin, flank, or abdominal pain is possible. May mimic renal colic or sciatica (with radiation to the legs).*
 - *Hypotension*
 - *Pulsatile mass – may be difficult to appreciate in the obese in the presence of guarding.*
2. If a symptomatic aneurysm, or any aneurysm > 9 cm is detected, immediately phone Vascular Registrar to arrange [urgent vascular surgery assessment](#).
 3. Commence aggressive risk factor modification:
 - Smoking cessation – smoking increases the rate of aneurysm growth by 20 to 25%.¹
 - Rigorous blood pressure control – no particular anti-hypertensive agent is favoured.
 - Reduce lipids – statins are advised in all patients.
 - Anti-platelet agents – provided there are no contraindications, start on low-dose aspirin e.g., aspirin 100 mg.
 - Diabetes – aggressive control of blood glucose.
 4. Arrange surveillance using appropriate recall systems. Scan intervals are based on aneurysm diameter:

Aneurysm diameter	Scan frequency
30 to 34 mm	2 years
35 to 39 mm	1 year
40 to 49 mm	6 months
≥ 50 mm	Vascular review

5. Arrange [routine vascular surgery referral](#) for surgical opinion regarding repair if:
 - abdominal aortic aneurysm > 4.0 cm diameter.
 - descending thoracic aortic aneurysm > 5.0 cm diameter.
 - rapid abdominal aortic aneurysm expansion > 1.0 cm diameter growth per year.
6. If aneurysm > 5.0 cm in diameter, patient is not fit to drive – see [Assessing Fitness to Drive](#) (page 51). Only a surgeon can return a patient to driving post-operatively.
7. Regularly monitor all risk factors.

Referral

- If signs or symptoms of dissection or rupture, phone **000** to arrange transfer to the Emergency Department for [immediate vascular surgery referral or admission](#).
- If a symptomatic aneurysm, or any aneurysm > 9 cm is detected, immediately phone Vascular Registrar to arrange [urgent vascular surgery assessment](#).
- If suitable for surgical repair, arrange [routine vascular surgery referral](#).

Information

For health professionals

Further information

Australian Family Physician – [Aortic Aneurysms: Screening, Surveillance and Referral](#)

For patients

- Australian and New Zealand Society for Vascular Surgery – [Aortic Aneurysm](#)
- Better Health Channel – [Aneurysm](#)

Sources

References

1. Powell JT, Greenhalgh RM. Small abdominal aortic aneurysms. New England Journal of Medicine. 2003 May;348(19):1895-1901.

Select bibliography

Hirsch AT, Haskal ZJ, Hertzler NR, Bakal CW, Creager Ma, Halperin JL, et al. ACC/AHA 2005 Practice guidelines for the management of patients with peripheral arterial disease (lower extremity, renal, mesenteric, and abdominal aortic). Journal of the American College of Cardiology. 2006 Mar;47(6):e1-e192.

Last Reviewed: August 2019

[Disclaimer](#)