






Update On Advances In Treatment Of Abdominal Compartment Syndrome Associated With Ruptured AAAs: When And How To Treat Medically And When And How To Treat With Opening The Abdomen

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Editor-in-Chief Eur J Vasc Endovasc Surg



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No disclosure

- I have no disclosure related to this topic
- I apologize for not being present in person this year!

New ESVS AAA Guidelines in February 2024


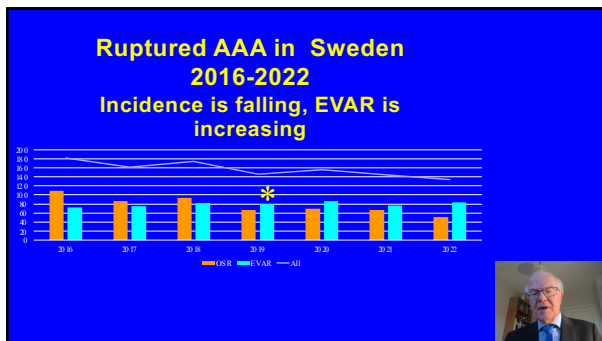
Clinical Practice Guidelines Eur J Vasc Endovasc Surg (2024) 67, 192–331

CLINICAL PRACTICE GUIDELINE DOCUMENT

Editor's Choice – European Society for Vascular Surgery (ESVS) 2024 Clinical Practice Guidelines on the Management of Abdominal Aorto-iliac Artery Aneurysms[☆]


6.4. Peri-operative complications after ruptured abdominal aortic aneurysm repair

6.4.1. Intra-abdominal hypertension and abdominal compartment syndrome. Intra-abdominal hypertension


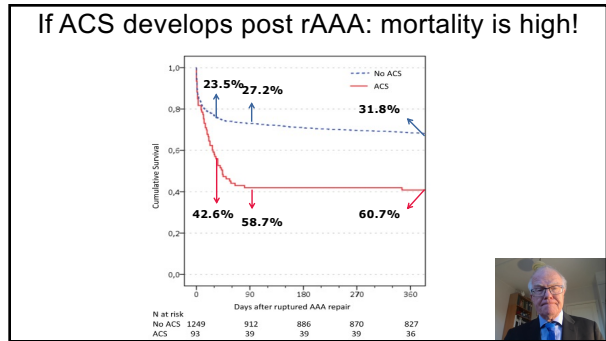
ACS after rAAA is registered in Swedvasc

- ACS, decompression laparotomy and prophylactic open abdomen laparotomy are registered since 2008
- During 2016-2022:
 - 5.7% (29/512) developed ACS after OSR
 - 5.1% (27/530) developed ACS after EVAR
 - 35% were left open after OSR 2018-2022




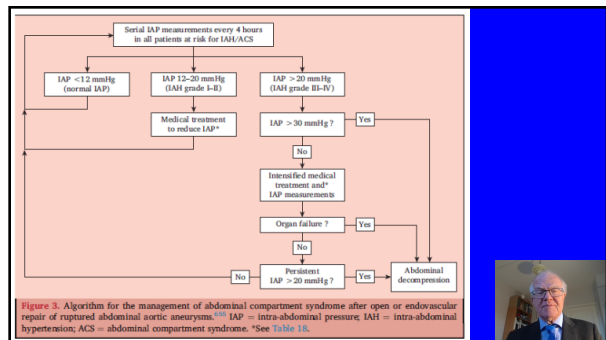
Why are rAAA repairs decreasing?

- **Screening** of all 65 year old men started in Uppsala county in 2006, national coverage after 2012
- **Improved smoking habits in Sweden**
- In 2021 only 5% of the adult population smoked daily: women (5.3%) men (4.6%)





Why is ACS after rAAA so less common?


- Permissive hypotension
- Massive transfusion protocols
- Monitoring of intra-abdominal pressure
- Pro-active medical treatment
- EVAR for rupture is a game changer

Recommendation 81		Unchanged	
After open or endovascular treatment for a ruptured abdominal aortic aneurysm, <u>post-operative monitoring of intra-abdominal pressure is recommended for early diagnosis and management of intra-abdominal hypertension or abdominal compartment syndrome.</u>			
Class	Level	References	ToE
I	B	Karkos <i>et al.</i> (2014), ⁶⁷⁰ SÅ <i>et al.</i> (2020), ⁶⁴⁸ Ersryd <i>et al.</i> (2016), ⁶⁵¹ Ersryd <i>et al.</i> (2021), ⁶⁵³ Ersryd <i>et al.</i> (2019), ⁶⁵⁴ Adkar <i>et al.</i> (2017), ⁶⁵⁶ Björck <i>et al.</i> (2008), ⁶⁵⁷ Mayer <i>et al.</i> (2014) ⁶⁴⁷	




Recommendation 82		Unchanged	
Patients with <u>abdominal compartment syndrome</u> after open or endovascular treatment of a ruptured abdominal aortic aneurysm should be treated with <u>decompressive laparotomy.</u>			
Class	Level	References	ToE
I	B	Mayer <i>et al.</i> (2009), ⁶⁴⁷ Steenberge <i>et al.</i> (2021), ⁶⁴⁹ Ersryd <i>et al.</i> (2021), ⁶⁵³ Ersryd <i>et al.</i> (2019), ⁶⁵⁴ Adkar <i>et al.</i> (2017), ⁶⁵⁶ Seternes <i>et al.</i> (2017), ⁶⁶⁰ De Waele <i>et al.</i> (2016) ⁶⁴⁸	



What medical treatments are effective to prevent ACS after aortic repair?

- Early:
- Pain relief, in particular a thoracic epidural catheter
- Neuromuscular blockade, if the patient needs mechanical ventilation, is very effective

Improve abdominal wall compliance	Pain relief (epidural anaesthesia)
Decrease intra-abdominal and/or abdominal content	Arachidonic acid synthetase inhibitors
Correct positive fluid balance	Neuromuscular blockade (may reduce intra-abdominal pressure by 50%)
Organ support	Paracetamol (acetaminophen)
	Arachidonic acid synthetase inhibitors
	Whole blood and colloid (20% albumin)
	Diuretics (furosemide)
	Fluid replacement therapy if indicated
	Optimise ventilation (positive and expiratory pressures)
	Vasopressors (abdominal perfusion pressure > 60 mmHg)



World J Surg (2007) 31:2133–2137
DOI 10.1007/s00268-007-9222-0

World Journal of Surgery

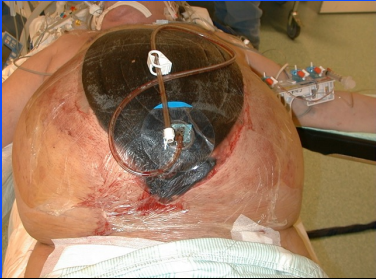

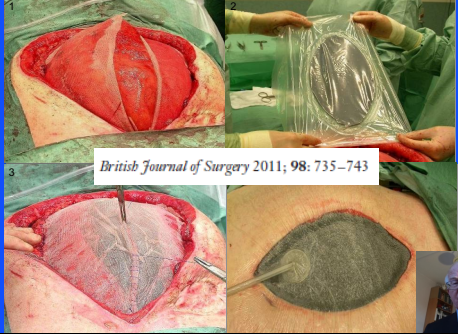
Vacuum-assisted Wound Closure and Mesh-mediated Fascial Traction—A Novel Technique for Late Closure of the Open Abdomen

Ulf Pettersson · Stefan Acosta · Martin Björck


- In surgery the best innovations are often the most simple ones
- This method described by us in 2007 is now used in many centres all over the world



The first patient treated with VAC + mesh mediated traction

British Journal of Surgery 2011; 98: 735–743




In the end, all mesh is removed and the fascia is closed

British Journal of Surgery 2011; 98: 735–743




British Journal of Surgery 2011; 98: 735–743



Recommendation 83		Changed	
In the management of open abdomen following decompression for abdominal compartment syndrome after open or endovascular treatment of ruptured abdominal aortic aneurysm, a <u>vacuum assisted closure system with mesh mediated traction and early abdominal closure</u> should be considered.			
Class	Level	References	ToE
Ia	C	Mayer <i>et al.</i> (2009), ⁵⁴⁷ Seternes <i>et al.</i> (2017), ⁶⁶⁰ Acosta <i>et al.</i> (2016), ⁶⁶² Pettersson <i>et al.</i> (2007) ⁶⁶³	

