



# The Impact of Holiday Surgery on Type A Aortic Dissection Outcomes: A 20- Year Analysis

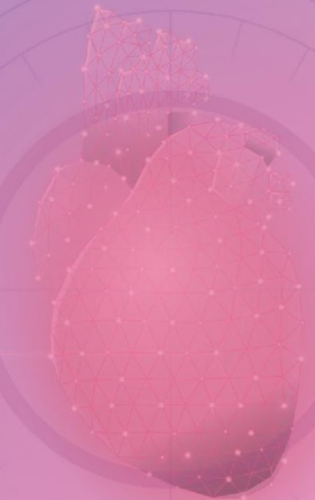
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- Type A aortic dissection is a life-threatening cardiovascular emergency that requires immediate surgical intervention.
  - However, the timing of surgery, specifically during holiday periods, has been the subject of debate
    - outcomes between holiday and non-holiday surgeries
    - Staff competency during holiday periods
  - a 20-year retrospective analysis to assess whether or not holiday surgery for type A aortic dissection patients results in improved treatment outcomes.



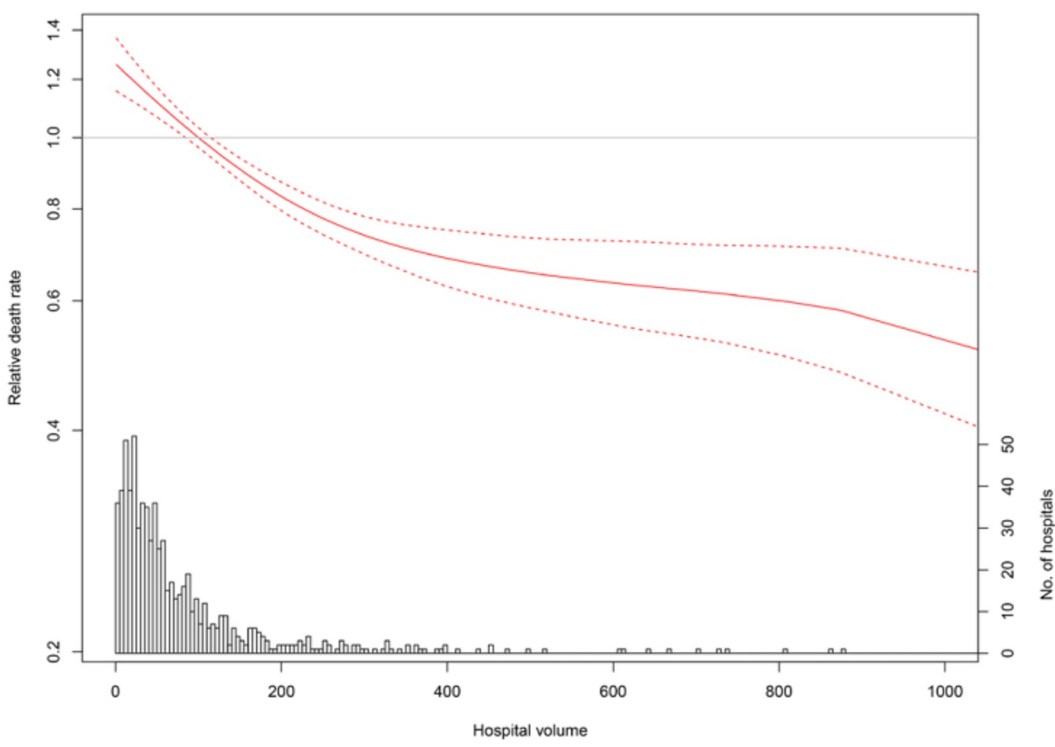


	<p><b>aTAAD</b></p>	<p><b>aTBAD</b></p>	<p><b>aneurysm rupture</b></p>
<b>morbidity (%)</b>	<b>2.6-3.5/100,000</b>		<b>5-10/100,000</b> <b>Rupture cases: &gt;12,000</b>
<b>Surgical ratio</b>	<b>IRAD: 79%</b> → <b>90%</b> <b>Sino-RAD: 52.6%</b>	<b>IRAD: 29.9%</b> <b>Sino-RAD: 78.7%</b>	<b>34% reach hospital</b>
<b>In-hospital mortality</b>	<b>IRAD: 25%</b> → <b>18%</b> <b>Sino-RAD: 18.1%</b>	<b>IRAD: 9.1%</b> <b>Sino-RAD: 2.5%</b>	<b>USA: 53.1%</b> <b>England: 5.9</b>



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- Low morbidity of acute aortic disease (AAS)
  - Misdiagnosis rate 14-39 %
  - Acute chest pain-acute coronary syndrome is the leading misdiagnosed condition
  - Initial misdiagnosis affects in-hospital treatment success and survival at follow-up

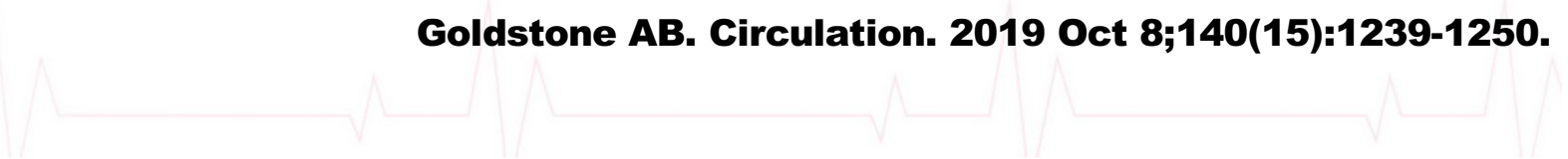


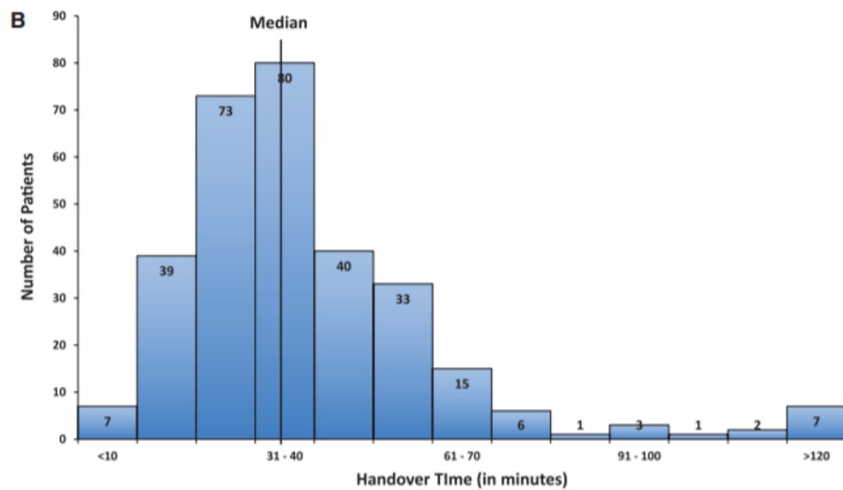
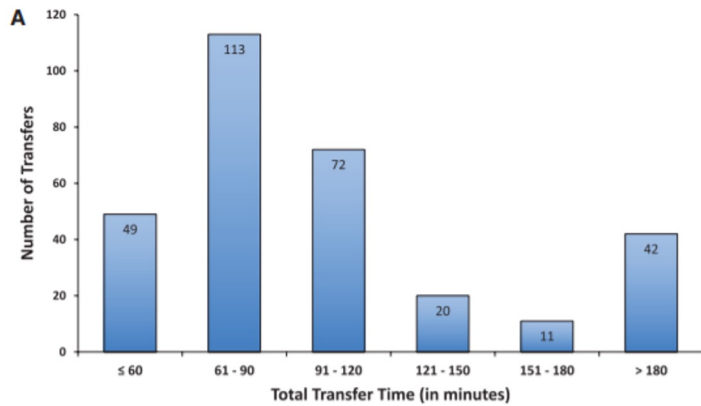


- Surgical risk is directly related to surgical volume
- Stable outcome with annual volume of >200 cases



**Goldstone AB. Circulation. 2019 Oct 8;140(15):1239-1250.**





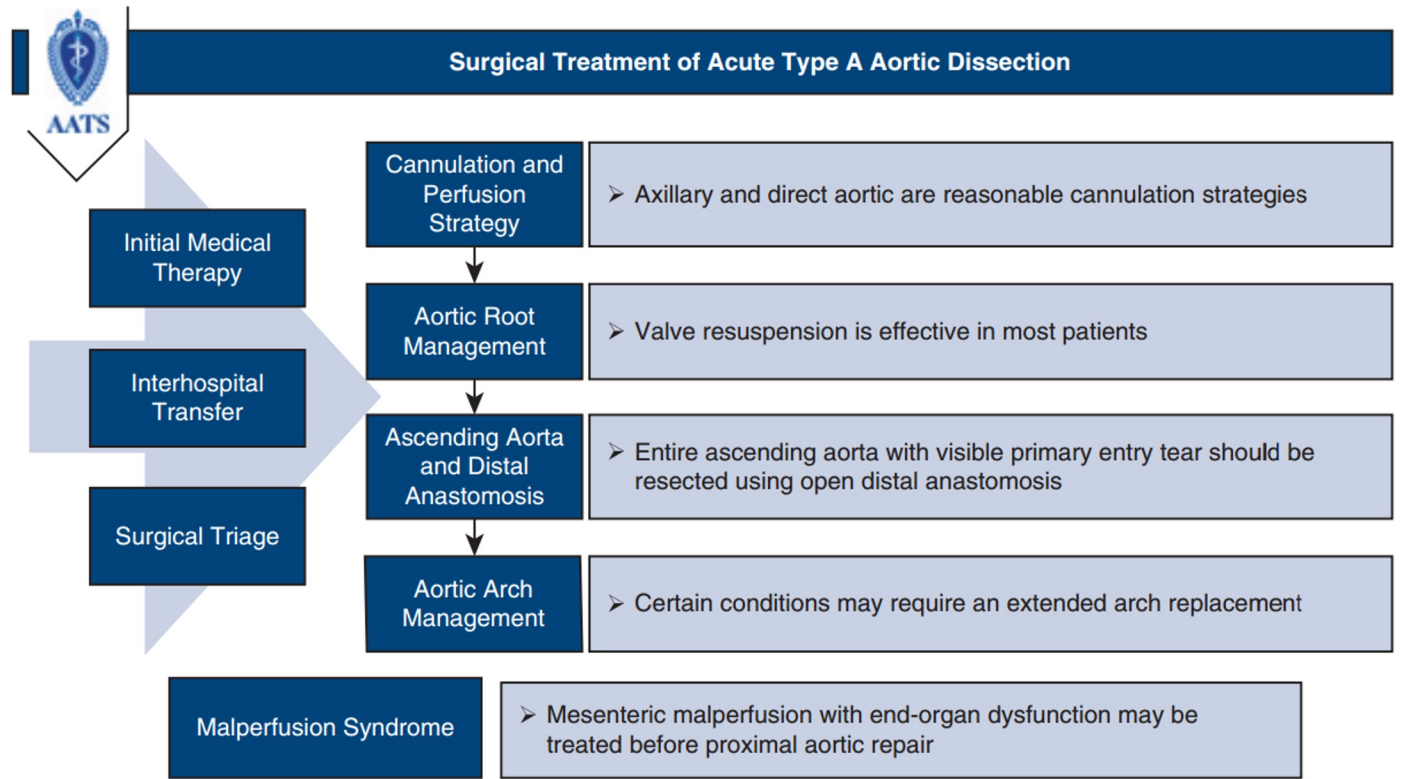
- Increased onset-operation time with interhospital transport
- Increased risk of potential rupture
- Unsafe transfers are common in the country
- Untimeliness of transport affects efficiency of transfers

**Bhuvnesh Aggarwal. Circ Cardiovasc Qual Outcomes. 2014 Sep;7(5):780-2**



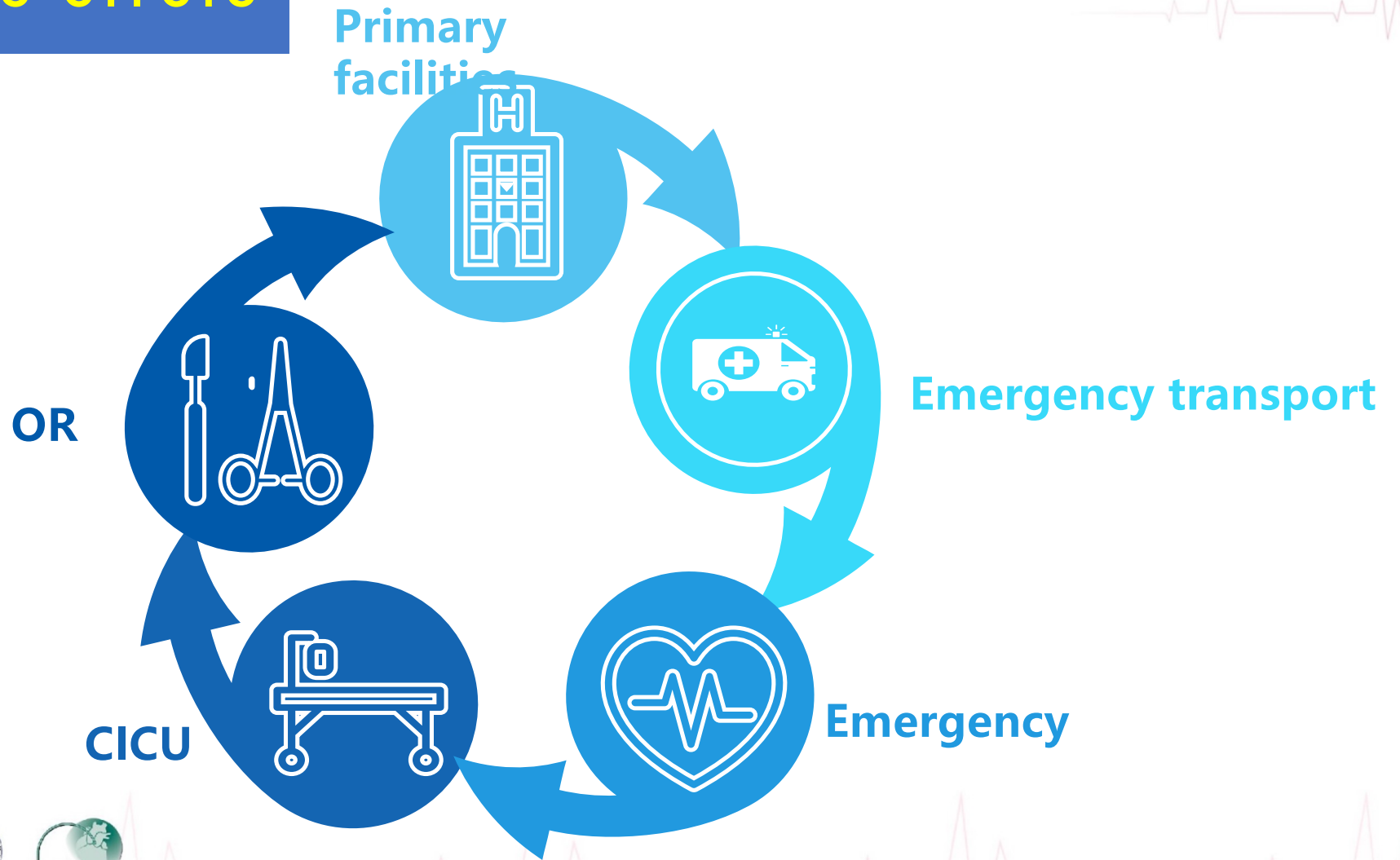
# 6-hour life circle

## 2021 The American Association for Thoracic Surgery expert consensus document: Surgical treatment of acute type A aortic dissection



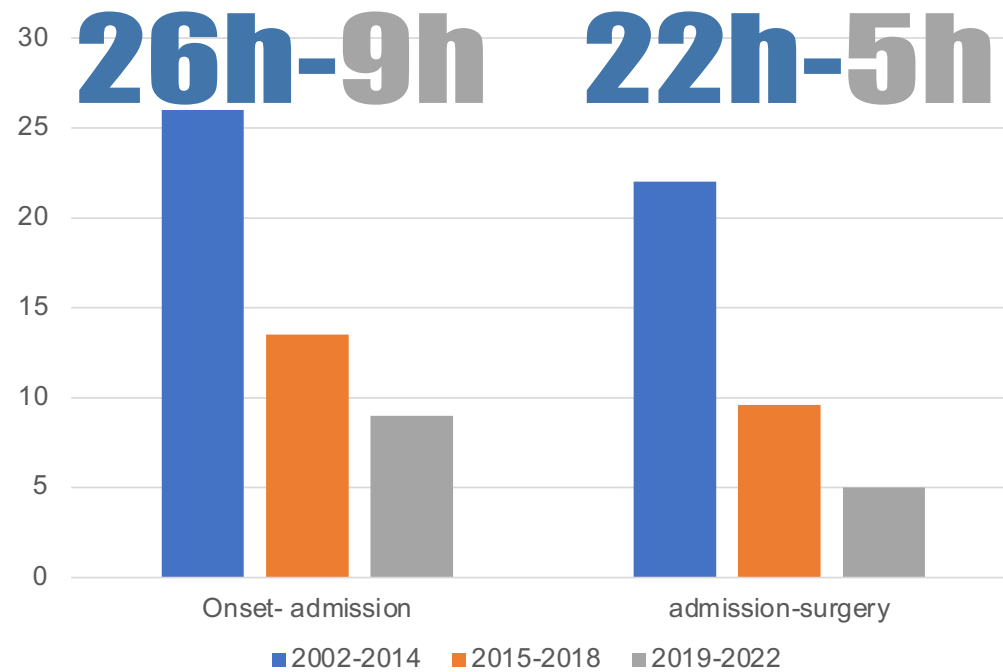


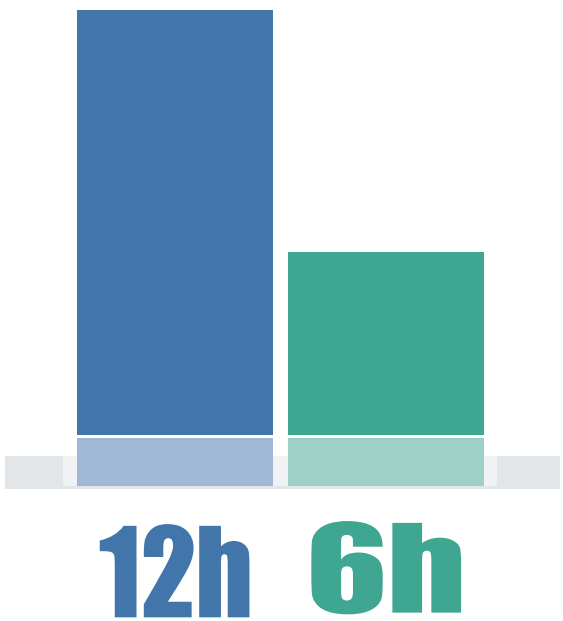
# 6-hour life circle



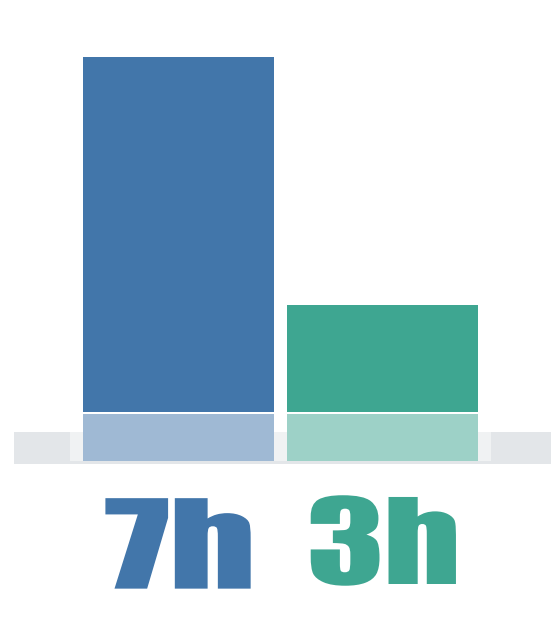


# Reduction in transit time/increase in emergency operation





**Onset-  
admission**

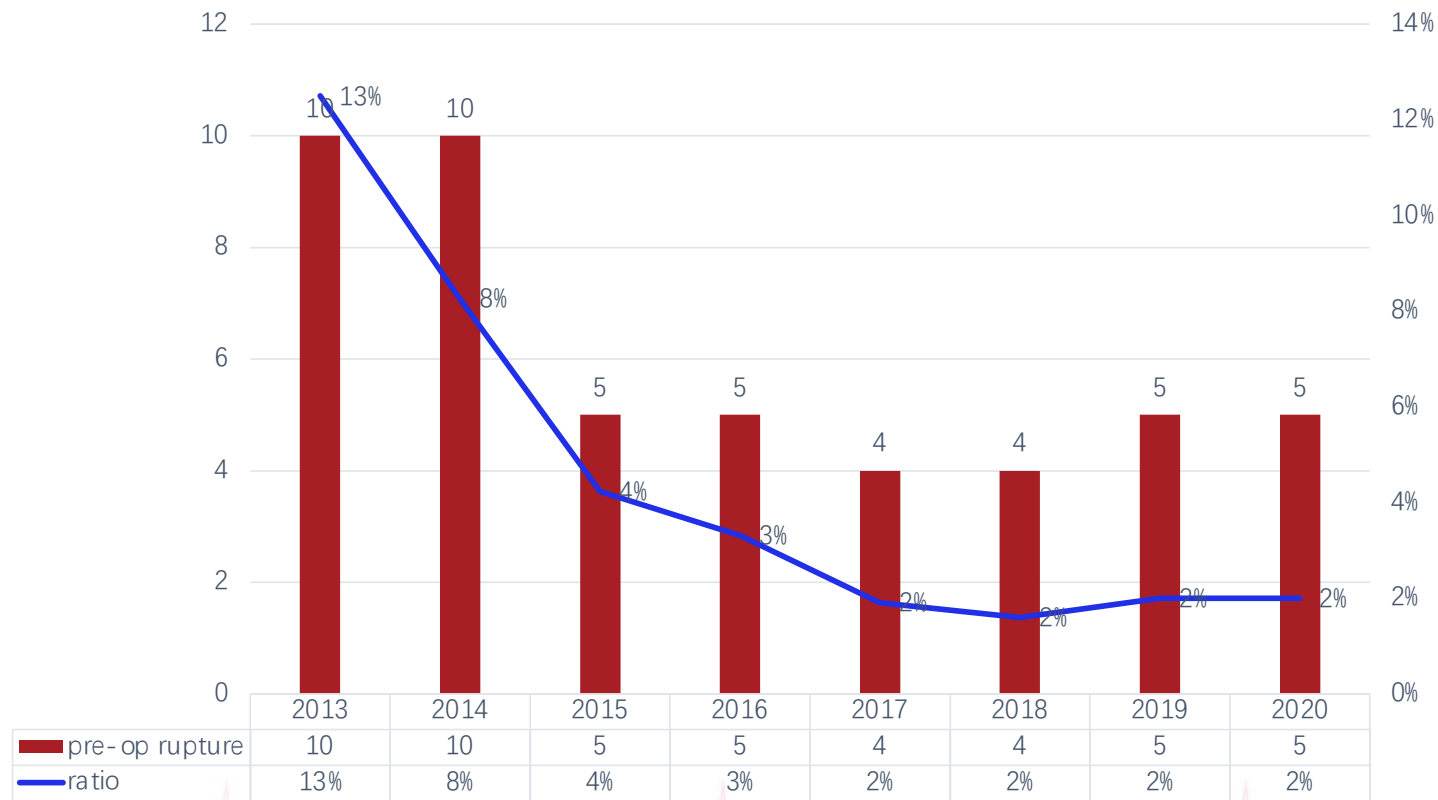


**Admission-  
surgery**

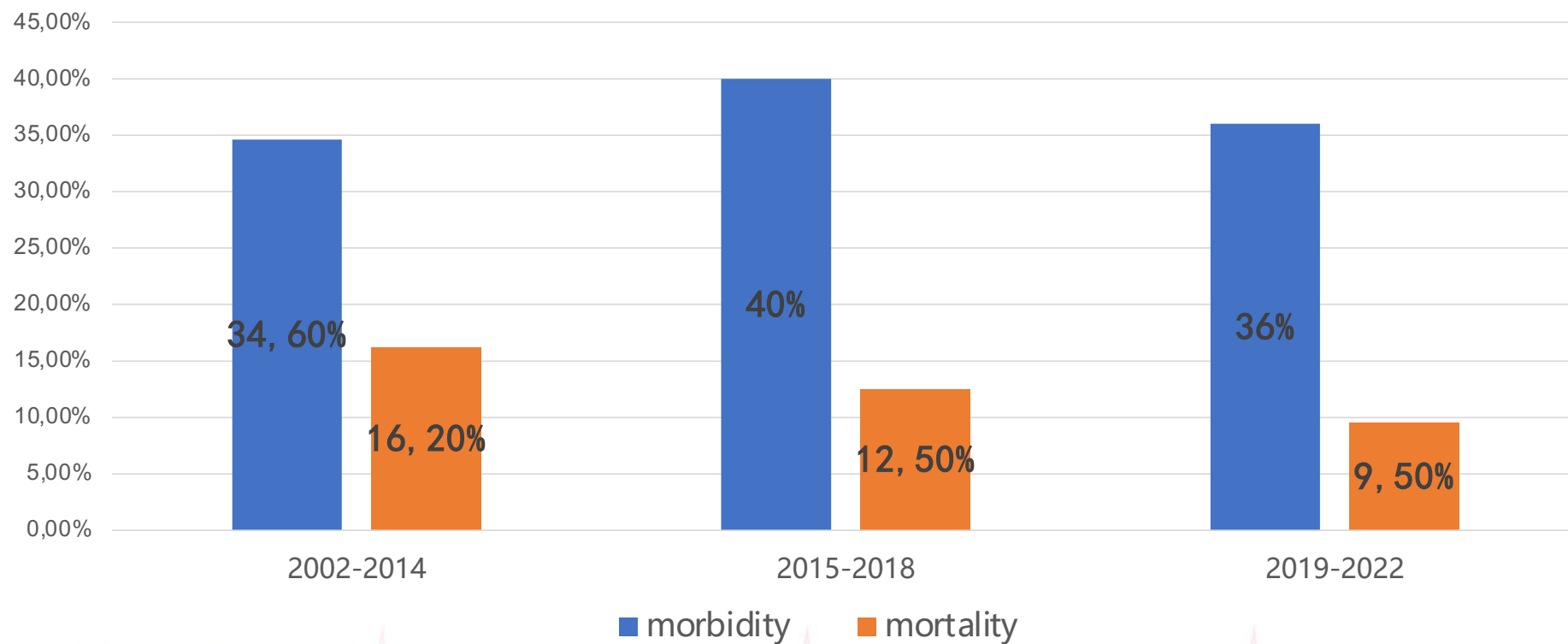
**Weekday**  
**Holiday**



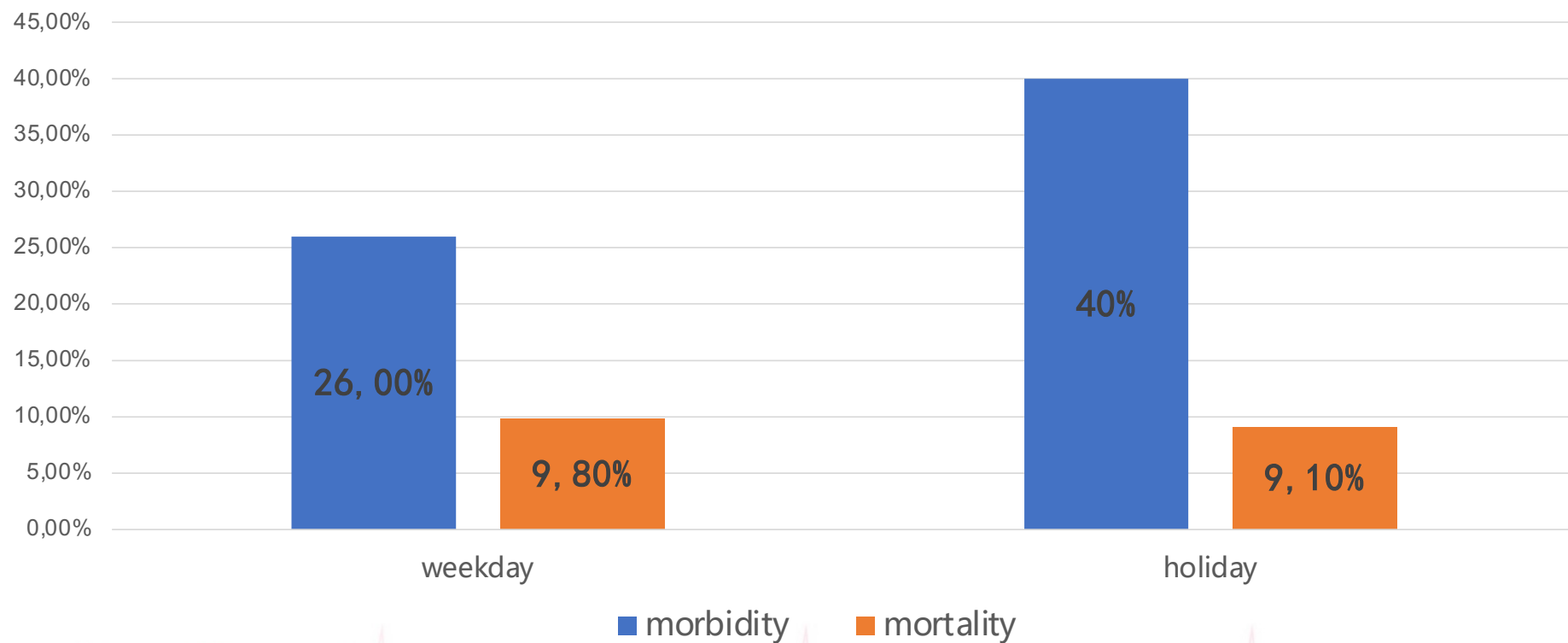
# Significant reduction in preoperative rupture



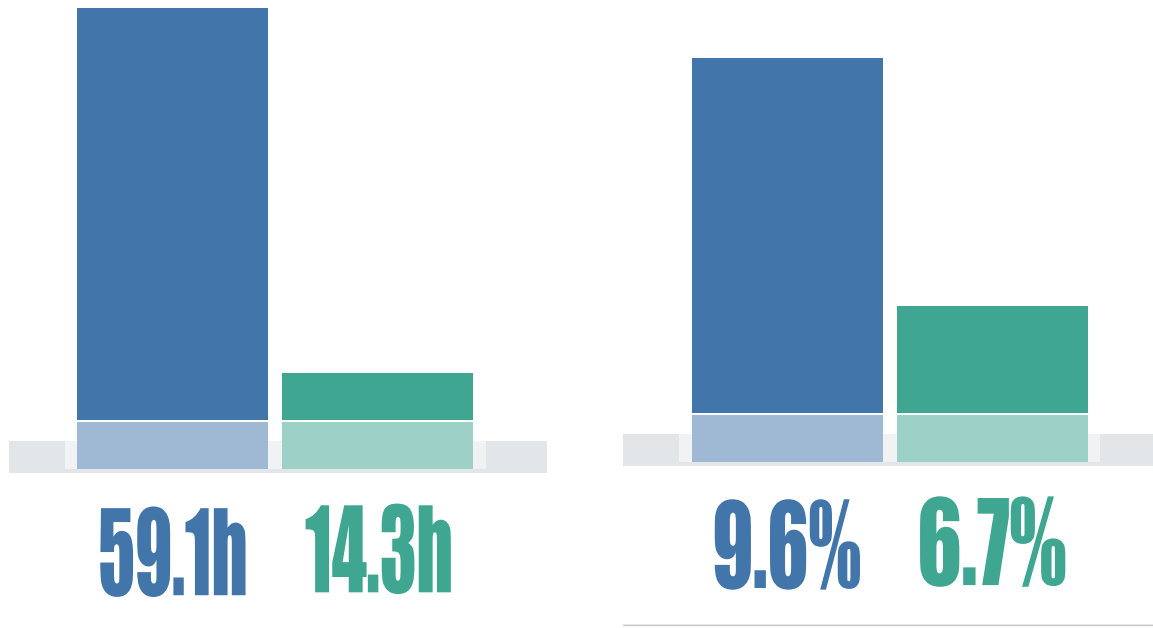
# Decreased malperfusion mortality



# Increase in malperfusion rate



# Decreased Mortality



2002-2014

2015-2022

- Weekday and Holiday Mortality no significant difference

- Decreased mortality

**Mechanical Ventilation**

**Overall Mortality**



# Discussion

IRAD: Onset- Diagnosed=Aver. 4hr  
Diagnosed-OR= Aver. 4hr

6-hour life circle

Primary diagnostic Initial treatment  
Transport  
Surgical Team  
Standard Treatment  
Follow-up

**FASTER**  
From Acute Symptom To Effective Reaction





## Primary Centers



抢救3名主动脉夹层患者,接诊50多名门诊病人——

## 鼓医“拆弹专家”30多小时不眠不休

昨天中午11:40,鼓楼医院门诊5楼著名专家诊室内,心胸外科主任王东进送走了上午门诊的最后一个病人后瘫坐在椅子上,不时用手揉着布满血丝的眼睛,“以前扛一夜甚至两夜没太多感觉,现在真是年纪大了。”他算了一下,从前天凌晨1点多醒来至昨天中午此刻,已经30多个小时没有合眼。累,已至极限,但让王东进欣慰的是:危及3个病人生命的3枚“定时炸弹”被成功拆除。

这名来自武汉的老人被确诊后,王东进的电话开始不停响起,“心胸外科微信群”也活跃了起来。到院内完成会诊和相关手术安排后,已是凌晨4点,此时的王东进早就没了睡意,索性早早起床去了医院。

2日早晨7点,老人被推进手术室,王东进再次和团队工作人员核实手术方案并安排完科室当天工作,之后开始了他的门诊,“科室共有3名专家可以进行主动脉夹层手术,老人的手术由周庆主任主刀。”王东进告诉记者,当天上午门诊共来了30多个病人,看完最后一个病人已是13:30,此时,他准备吃饭进行早已安排好的另一台常规搭桥手术,可手术室的求助电话来了。原来,手术团队打开老人的心包腔游离分支血管时发现,病情要比想象中严重得多,心包中有

大量血性心包积液,麻醉过程中血压不断下降且出血较多……必须由他出马处理一系列棘手问题。止血,置换原主动脉、主动脉弓……天尧老人的胸腔,王东进走出手术室时已是晚上7点多,这时他才想起来,午饭还没吃,一边的晚饭也凉了,随便扒拉了几口后,王东进又到了另一间手术室,抢救另一名A型主动脉夹层患者。

这名来自马鞍山的患者今年31岁,其夹层由主动脉根部至大腿的髂动脉处全部撕裂,生命危在旦夕,于当晚7点多被紧急推进手术室。

王东进介绍,考虑到病人年纪较轻,终身服用抗凝药会有种种弊端,所以进行了颇为复杂的“保留主动脉根部的主动脉替换术”,9个小时后,当王东进从手术台上下来,已是凌晨3点多,此时,他依然不能休息,另一手术台上正在进行的来自宜兴的主动脉A型夹层患者同样需要他去“解难”。王东进走

出手术室时,已是昨天上午7:45,“当时感觉整个人都是飘忽忽的,很想休息一下,但今天上午门诊的号已经早早挂出去了,不去,患者就要白跑一趟。”王东进告诉记者,昨天走出手术室后又紧急赶往心胸外科的ICU室,那里躺着30个危重患者等着他查房,处理完一切回到门诊已是上午9点,看完20多名病人,已是中午11:40。

记者了解到,鼓楼医院心胸外科作为我省唯一血管疾病诊疗中心,每年开展的心脏手术有1000多台,30多小时无眠不休,对王东进及他的团队而言早已不是第一次。王东进笑言,白衣天使必须无条件救人,再累他都会咬牙坚持,而他的口袋里常都会放着一瓶硝酸甘油片,“我有高血压,也有心脏病,只要一紧张就会心绞痛,这瓶药就是用来解痛的。”王东进说。

本报记者 顾小萍  
本报通讯员 柳辉艳

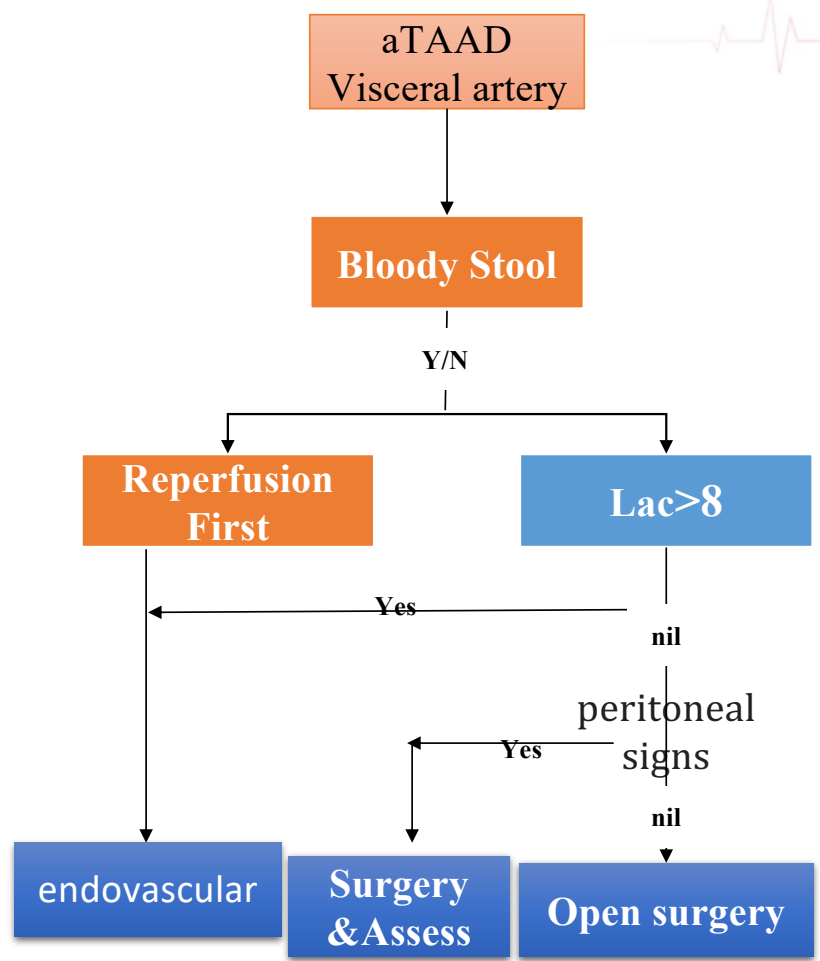
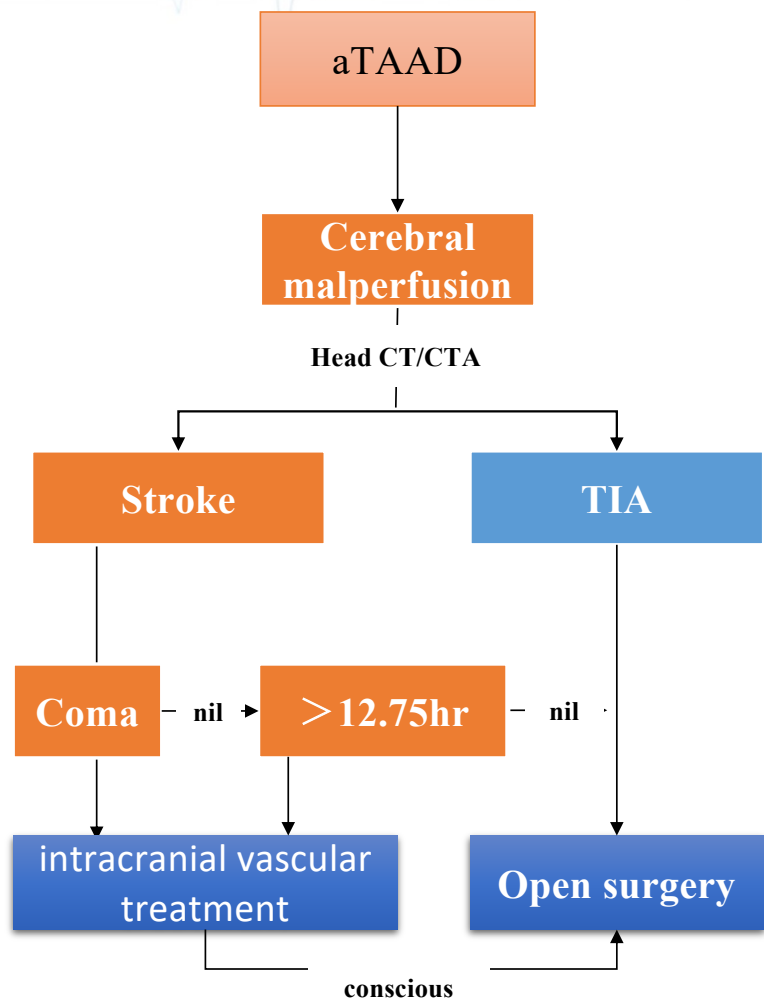
## Regular annual course training



2014年主动脉疾病规范化诊疗及进展学习班与研讨会

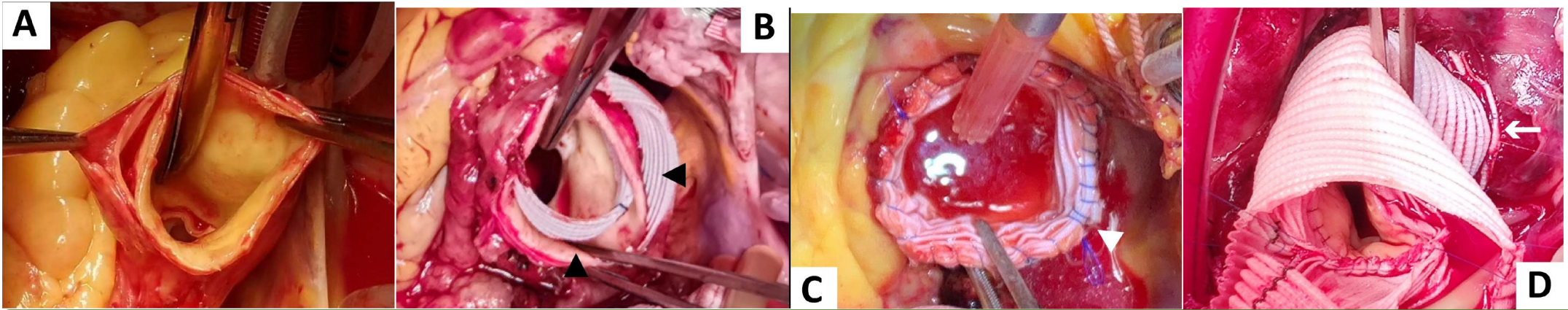
2015年江苏省主动脉疾病规范化诊疗及进展研讨会暨江苏省医学会胸心血管外科分会大血管专业学组筹备大会

2016年全国主动脉疾病规范化诊疗及进展研讨会暨江苏省医学会胸心血管外科分会大血管专业学组成立大会





# Drum Tower Strategy--aortic root



## Double Jacket Wrapping

❓ **Decrease replacement ratio, avoid prosthetic valve related complication**

	IRAD	SinoRAD	Drum Tower
Root replacement	32.0%	60%	21.0%

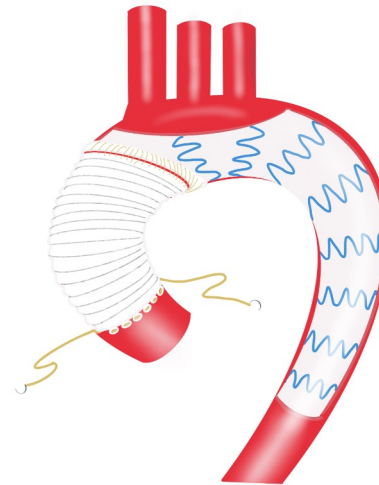
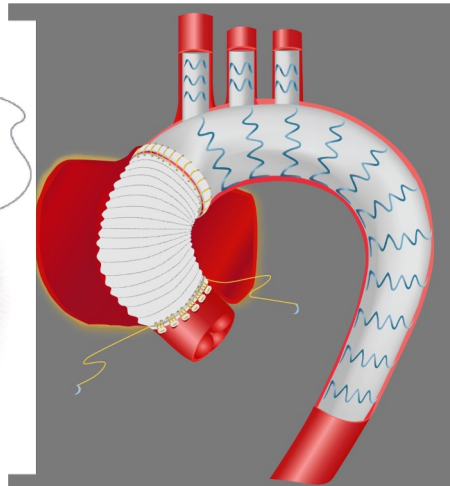
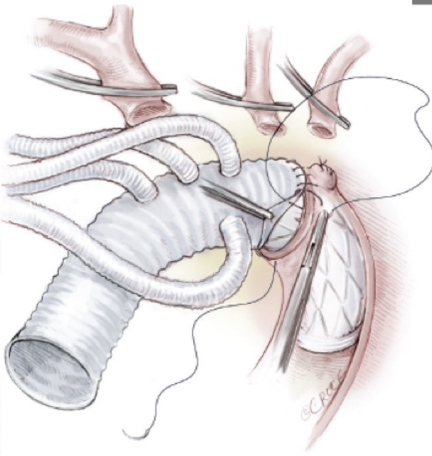
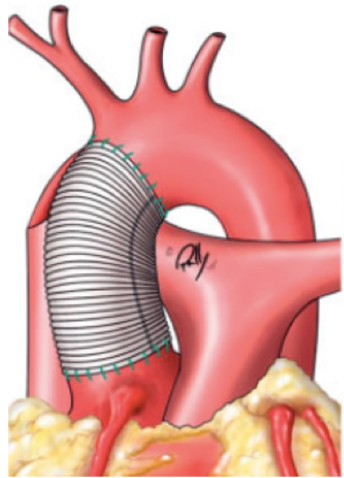
❓ **decrease OR time/ transfusion/mortality**

	OT (H)	CPB (MIN)	RBC (U)	MORTALITY (%)
<b>Repair</b>	8.5	239	7.1	8.0
<b>Replace</b>	9.1	283	8.2	9.5



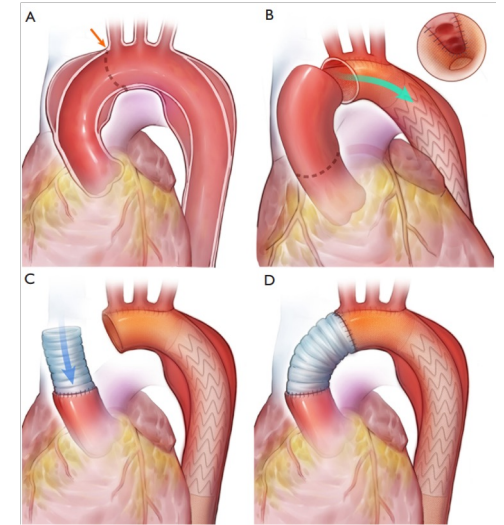


# Drum Tower Strategy--aortic arch



Total Arch+FET

arch fenestrated stent graft



Modified "in situ" arch replacement



## Summary



- Type A aortic dissection requires immediate surgical intervention.
- Interhospital transfer to high volume facility with initial medical therapy can be safe
- With 6 hour life circle
  - comparable outcomes between holiday and non-holiday surgeries
  - Staff competency remain intact during holiday periods
- Standardized and simplified procedures improved treatment outcomes, especially young surgeons during holidays





A photograph of a modern building with a blue, grid-like facade at dusk. The building is illuminated from within, and the sky is a deep blue. In the foreground, there are silhouettes of people walking on a path. The text "Thank you" is overlaid in large, bold, yellow letters across the center of the image.

**Thank you**