

# 心損傷

高度救命救急センター

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# Cardiac injury

with tamponade

without tamponade

# Cardiac injury

with tamponade

without tamponade

# 当院の方針

cardiac tamponade



cardiac injury

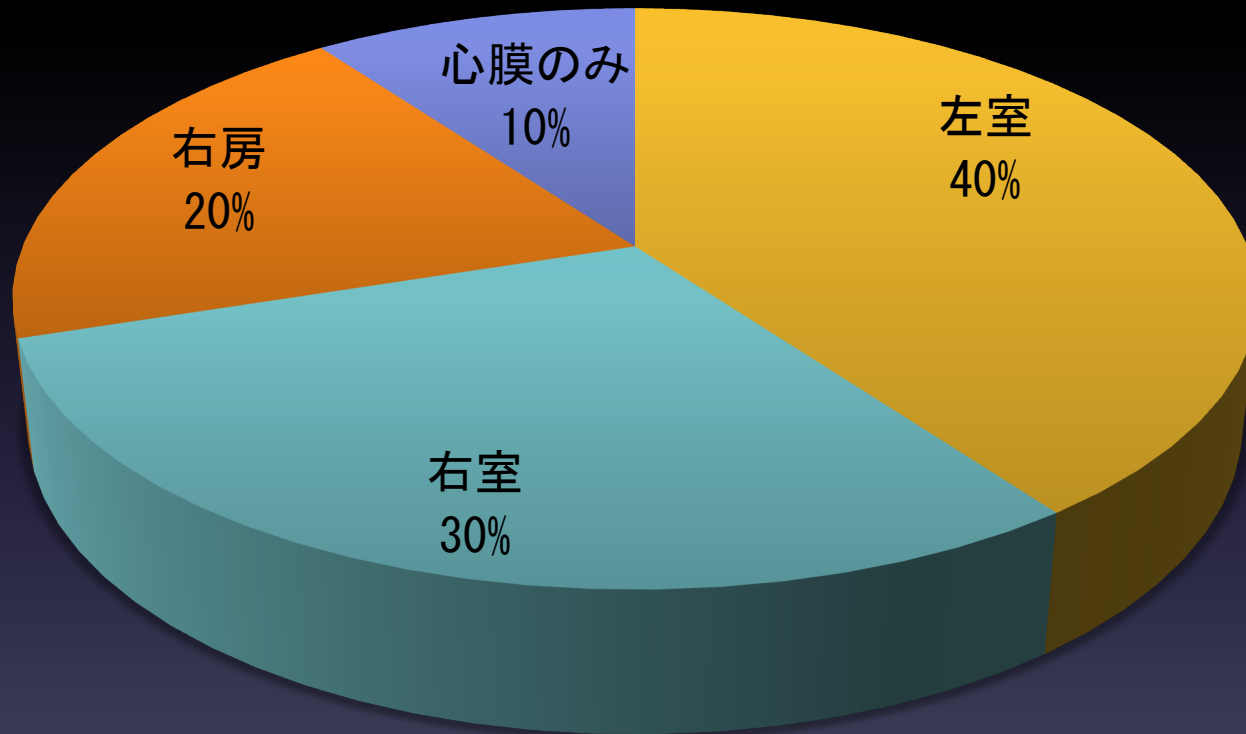


median sternotomy

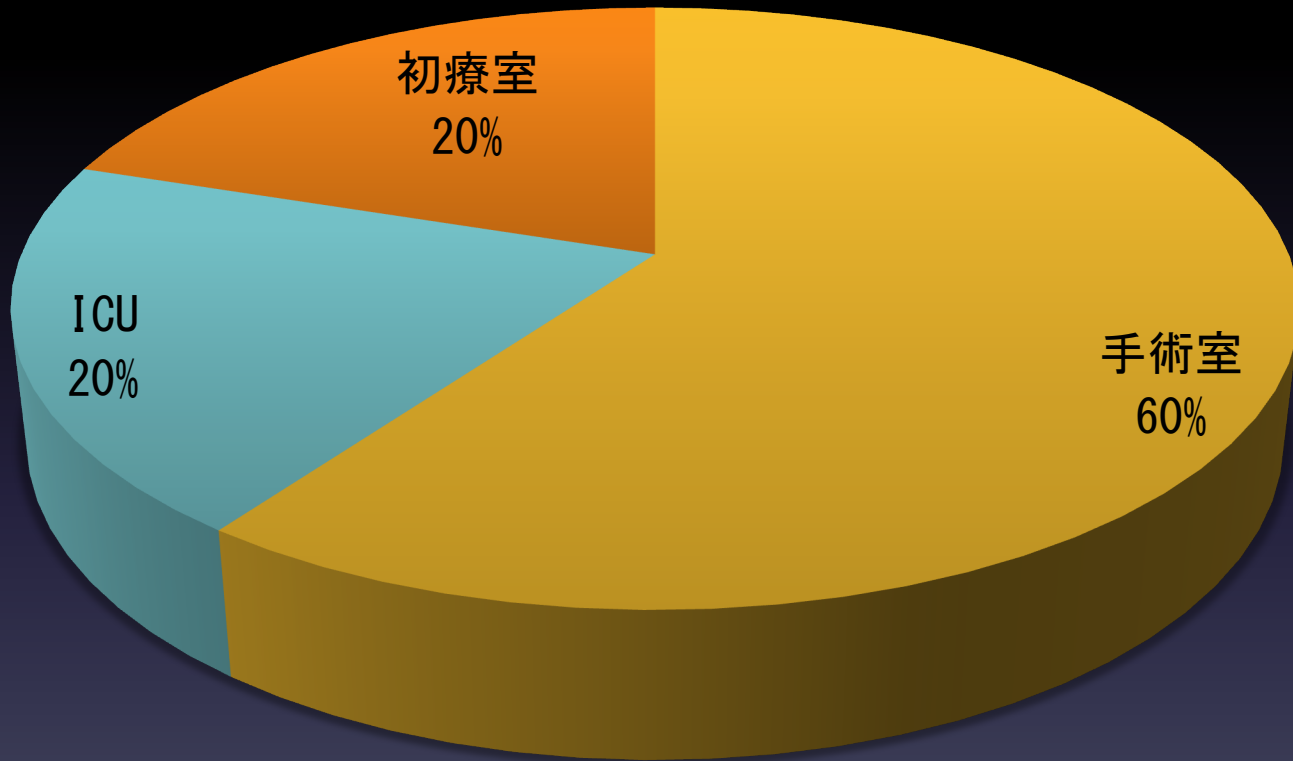
# 当院での心損傷症例

- 期間：2005～2014年の9年間
- 対象：10例
- 鈍的：5例、鋭的：5例

# 損傷部位

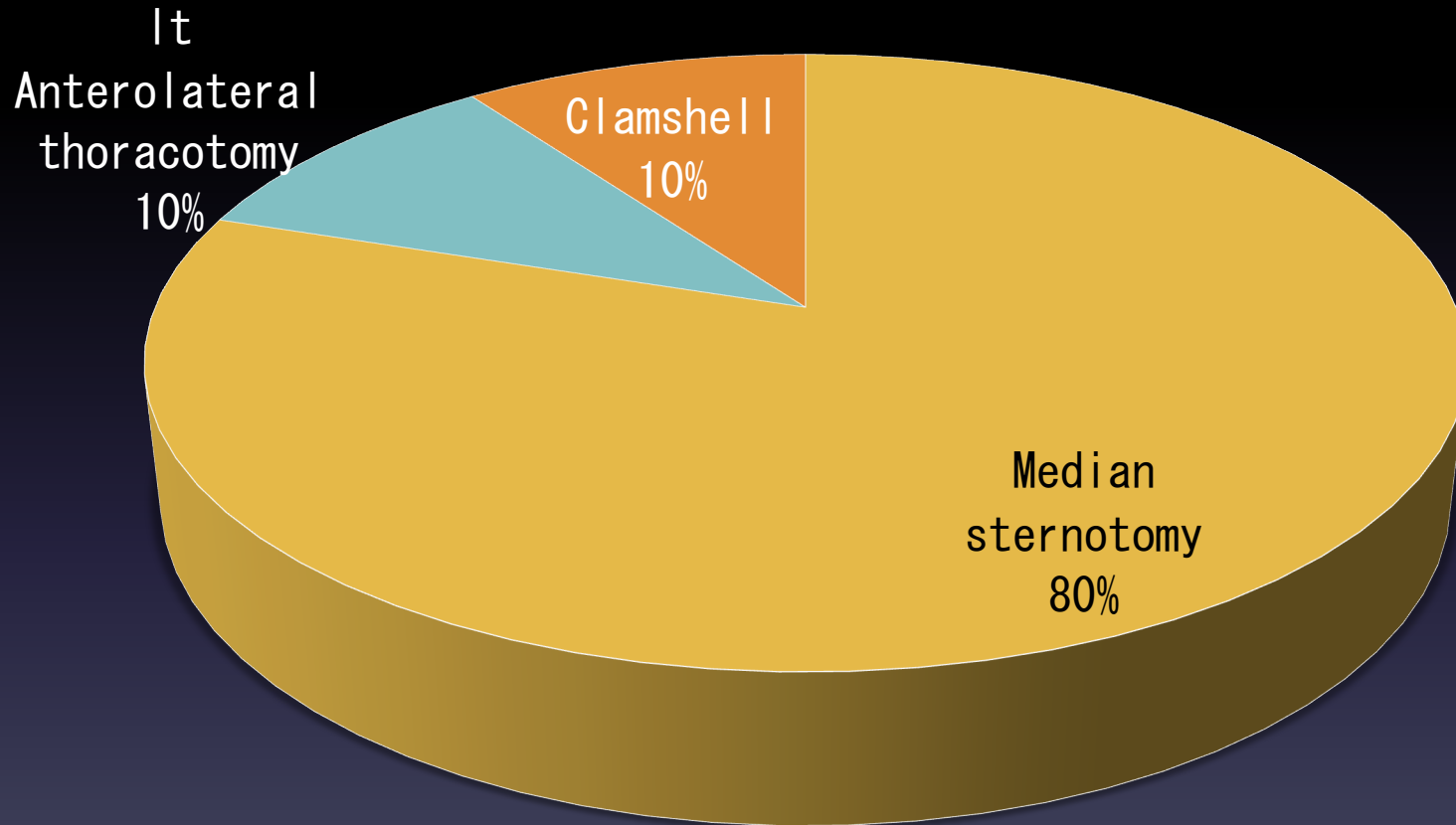


# 手術室

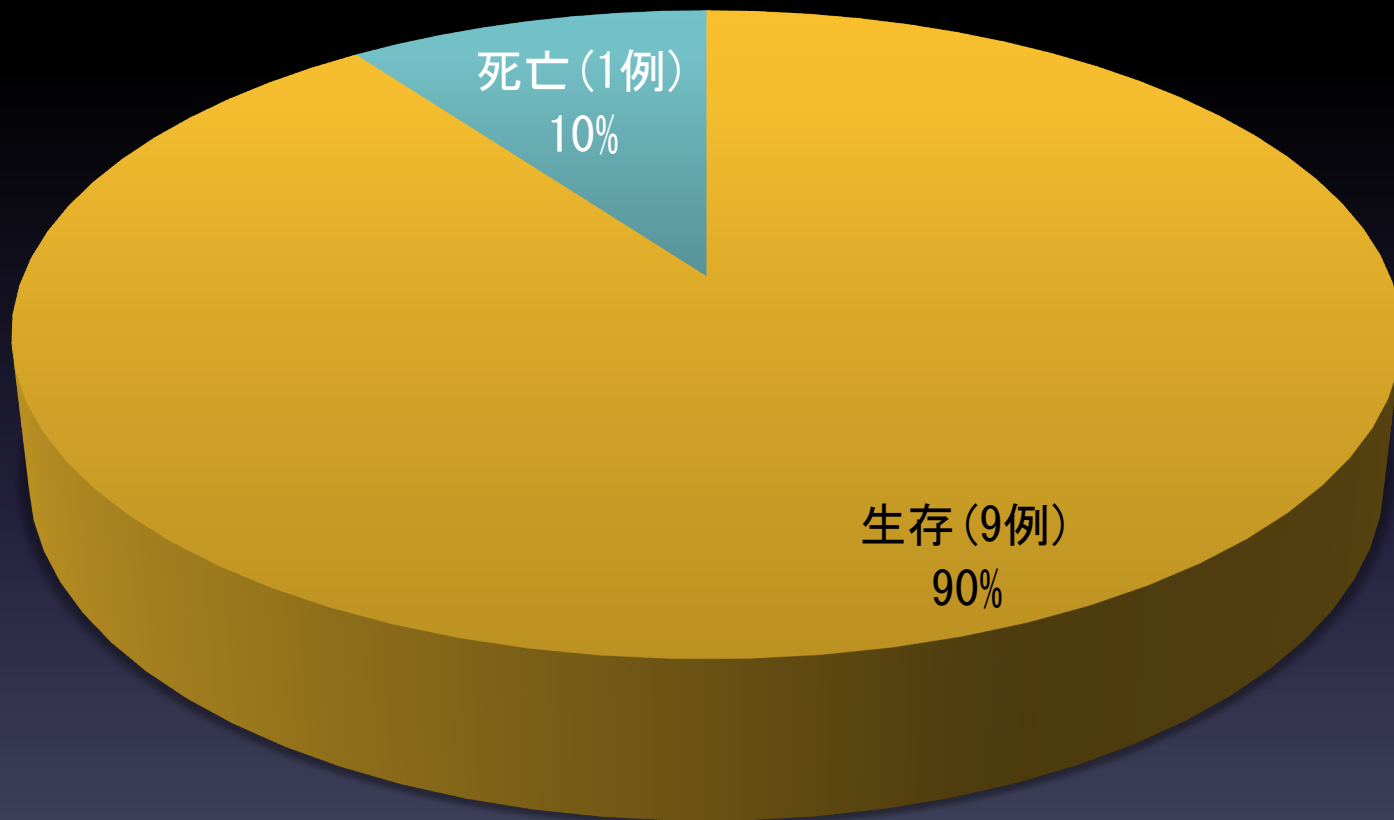




# 開胸方法



# 転帰

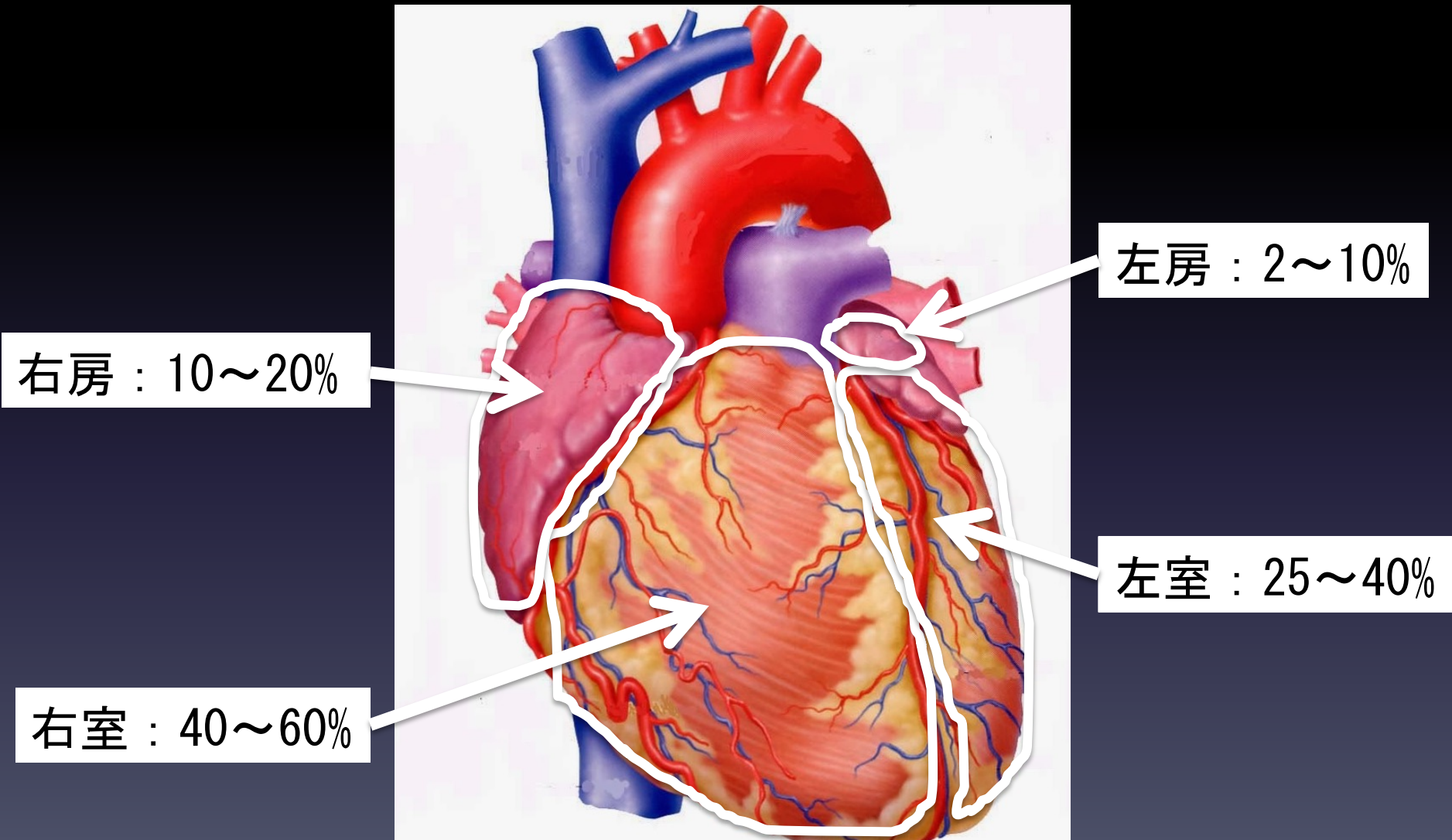


# JATECでは？

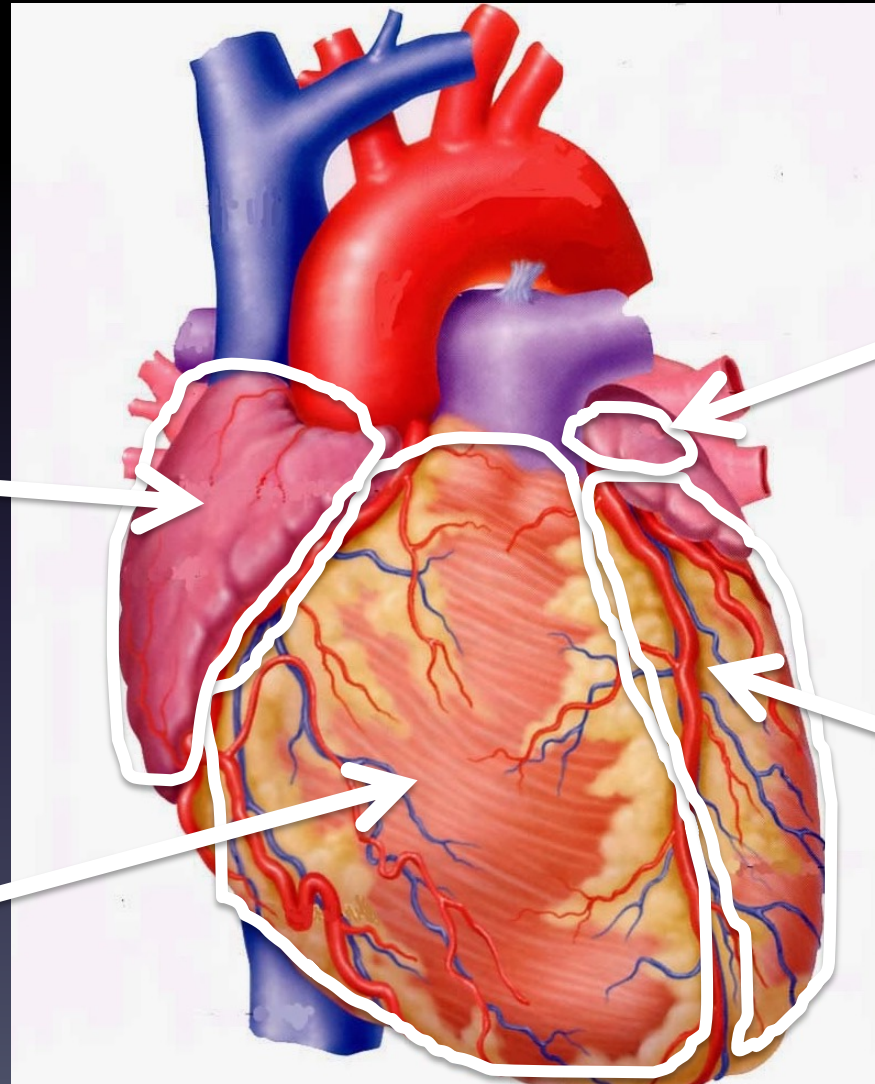
- Primary Survey
- 心嚢穿刺
- 10～15mlの吸引で改善あり？

最初から開胸が望ましい

# Penetrating cardiac injury



# Blunt cardiac injury



右房 : 21%

左房 : 14%

右室 : 34%

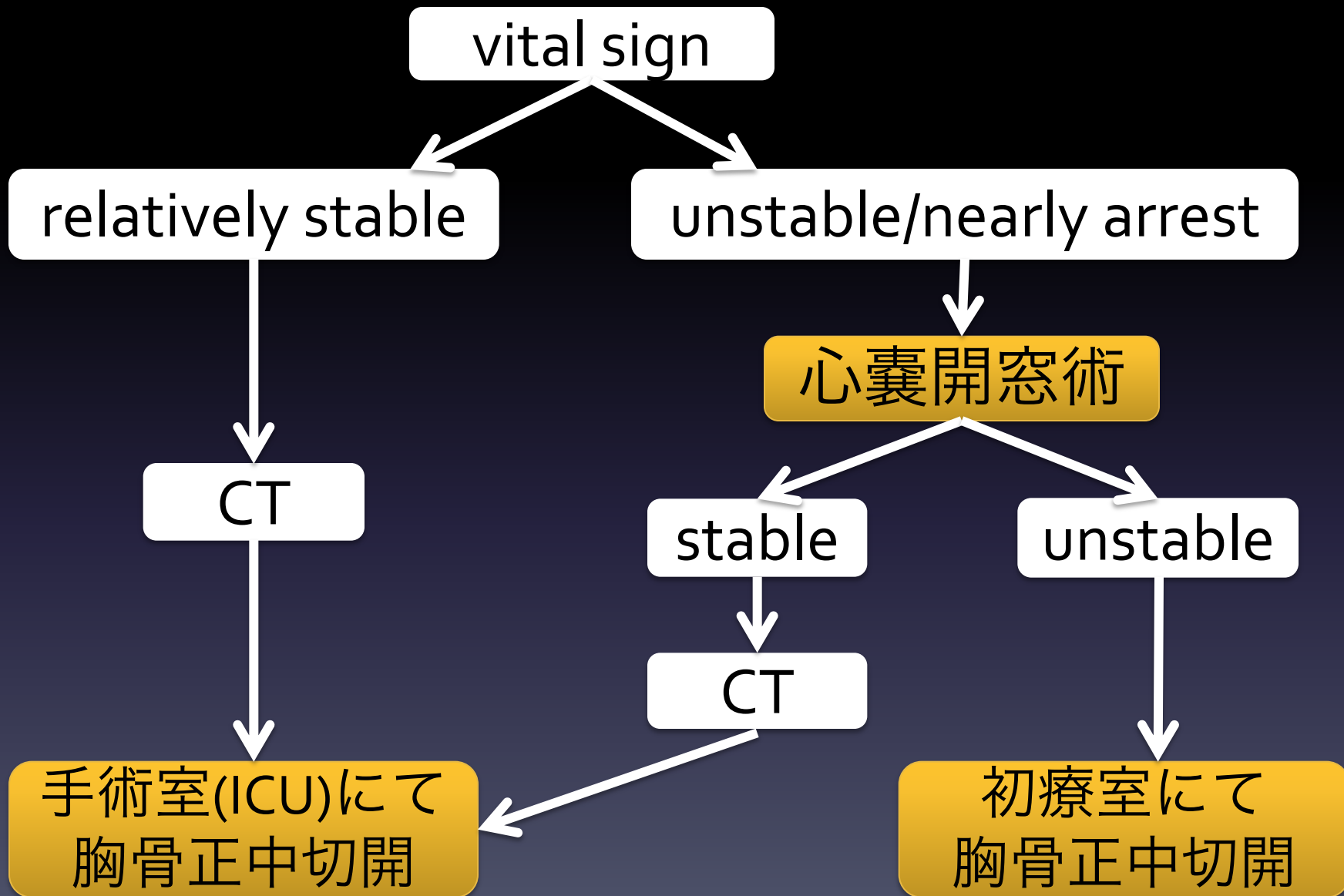
左室 : 31%

# Cardiac injury

- 心タンポナーデがあっても比較的バイタル安定している症例はある。
- 右心系損傷の場合は、ある一定のところで平衡状態となり、安定する。

# 当院の方針

# Cardiac injury algorithm





# Cardiac injury

with tamponade

without tamponade

# 心損傷AAST分類

Heart injury scale			
Grade	Description of injury	ICD-9	AIS-90
I	Blunt cardiac injury with minor ECG abnormality (nonspecific ST or T wave changes, premature arterial or ventricular contraction or persistent sinus tachycardia)	861.01	3
II	Blunt or penetrating pericardial wound with out cardiac injury, cardiac tamponade, or cardiac herniation	861.01	3
	Blunt cardiac injury with heart block (right or left bundle branch, left anterior fascicular, or atrioventricular) or ischemic changes (ST depression or T wave inversion) without cardiac failure	861.12	3
III	Penetrating tangential myocardial wound up to, but not extending through endocardium, without tamponade	861.01	3-4
	Blunt cardiac injury with sustained ( $\geq 6$ beats/min) or multilocal ventricular contractions	861.01	3-4
	Blunt or penetrating cardiac injury with septal rupture, pulmonary or tricuspid valvular incompetence, papillary muscle dysfunction, or distal coronary arterial occlusion without cardiac failure	861.01	3-4
IV	Blunt pericardial laceration with cardiac herniation		
	Blunt cardiac injury with cardiac failure		
	Penetrating tangential myocardial wound up to, but extending through, endocardium, with tamponade	861.01	3-4
		861.12	3
	Blunt or penetrating cardiac injury with septal rupture, pulmonary or tricuspid valvular incompetence, papillary muscle dysfunction, or distal coronary arterial occlusion producing cardiac failure	861.12	3
V	Blunt or penetrating cardiac injury with aortic mitral valve incompetence		
	Blunt or penetrating cardiac injury of the right ventricle, right atrium, or left atrium		
	Blunt or penetrating cardiac injury with proximal coronary arterial occlusion		
	Blunt or penetrating left ventricular perforation		
	Stellate wound with < 50% tissue loss of the right ventricle, right atrium, or of left atrium	861.03	5
VI	Blunt avulsion of the heart; penetrating wound producing > 50% tissue loss of a chamber	861.03	
		861.13	5
		861.03	5
		861.13	6

\*Advance one grade for multiple wounds to a single chamber or multiple chamber involvement.  
From Moore et al. [3]; with permission.

# CQ. 1 PCPSは？

- 原則は禁忌
- ただし、外科医不在などで緊急手術が困難な状況においては、PCPSも考慮

## CQ2. ドレナージのみで保存的に見れないのか？

- ドレナージのみで治癒し得る症例もある。
- 胸骨正中切開の侵襲はそれ程大きくない。
- Explorationの意味もある。

何か質問はありますか？

