CARDIAC ARREST ULTRASOUND

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Point of Care Ultrasound can provide important diagnostic, procedural and prognostic guidance in the management of patients in cardiac arrest

Diagnostic point of care ultrasound in Cardiac Arrest

VF/VT - ultrasound plays a limited role.

PEA/Asystole has a much broader differential, and ultrasound can help identify many causes of arrest.

Hypovolemia	Tension Pneumothorax
Hypoxia	Tamponade (Cardiac)
H+ Ion (Acidosis)	Toxins
Hypo/Hyperkalemia	Thrombosis (PE)
Hypothermia	Thrombosis (ACS)

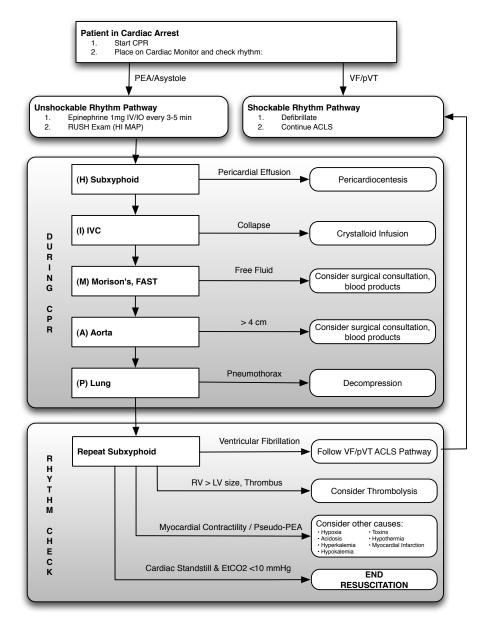
Differential Diagnosis of PEA/Asystole. The "H"s and "T"s.

Many protocols have been designed for unexplained hypotension and cardiac arrest.

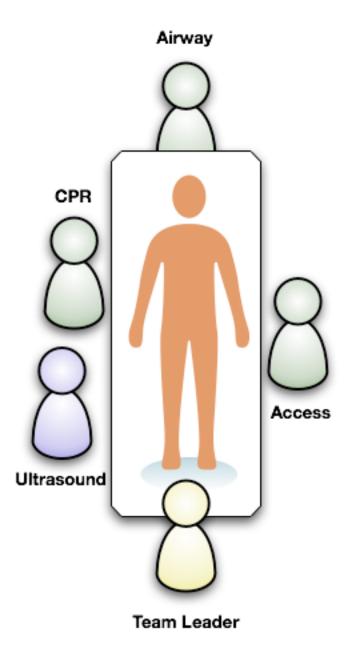
	UHP	AE JONES (UHP+)	TRINITY	FATE	FEER	BLUE	CAUSE	ACES	RUSH (SW)	RUSH (DM)	FEEL	CORE
YEAR	2001	2004	2002	2004	2007	2008	2008	2009	2009	2010	2010	unpub (2010)
WHO	Rose	Jones	Bahner	Jensen	Breitkreutz	Lichtenstein	Hernandez	Atkinson	Weingart	Mandavia	Breitkreutz	Wu
Cardiac	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
SX		Yes	AND	AND	AND		OR		AND	AND	AND	
PSLA		Yes	AND	AND	AND (or PSSA)		OR		AND	AND	AND	
A4C		Yes		AND	AND		OR		AND	AND	AND	
Lung				Yes		Yes	Yes		Yes	Yes		Yes
FAST	Yes	RUQ, PELVIS	Yes					Yes	Yes	Yes		
Aorta	Yes	Yes	Yes					Yes	Yes	Yes (and suprasternal)		Yes
IVC		Yes						Yes	Yes	Yes		Yes
DVT										Yes		Yes
ETT												Yes

It is important to have a formalized, algorithmic approach such as the RUSH exam.

The RUSH exam in Cardiac Arrest Resuscitation



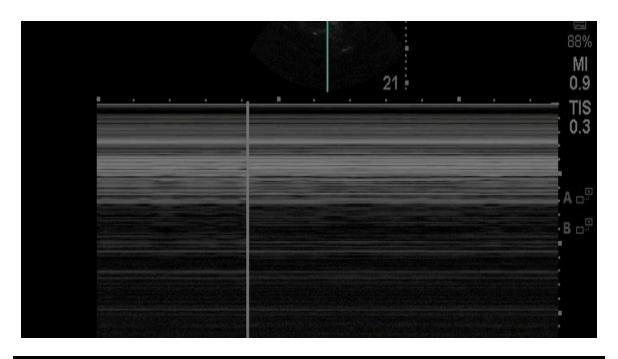
Team Members should have designated places and roles in an arrest.



Use one probe for your arrest patient – either a large curvilinear or phased array transducer.

Prognostic utility of ultrasound in cardiac arrest

Cardiac standstill carries exceedingly poor prognostic value.



References

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