

# STANDARD TREATMENT WORKFLOW (STW)

## TACHYARRHYTHMIA

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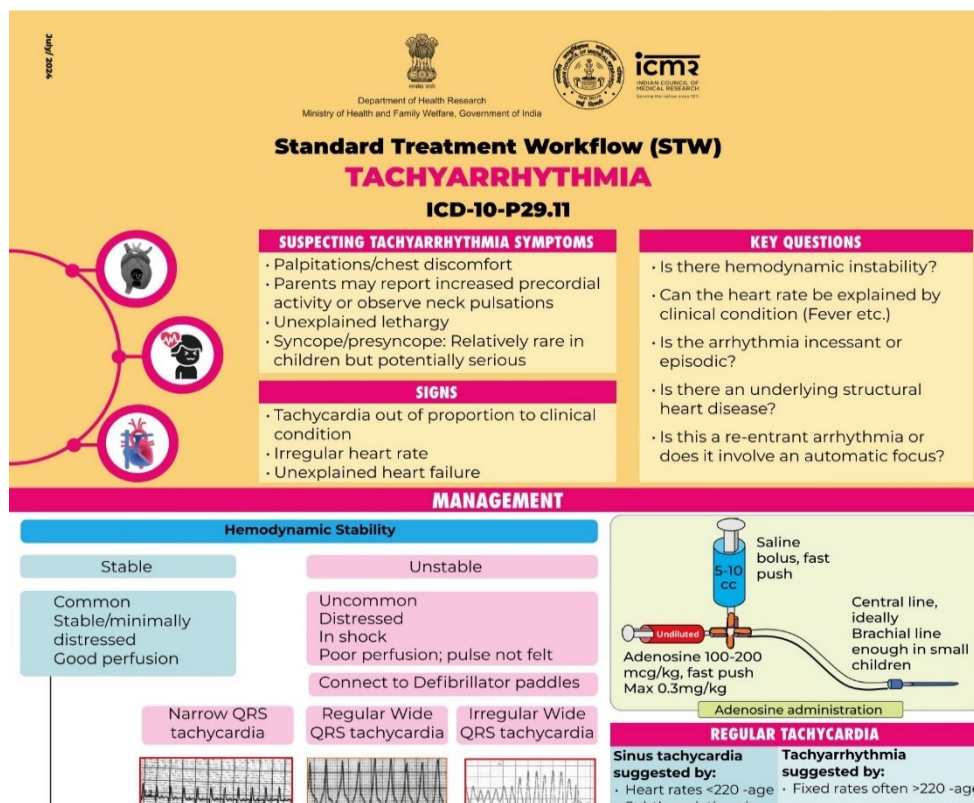
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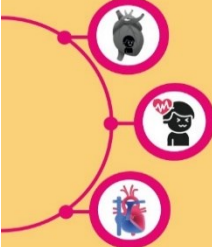
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Department of Health Research  
Ministry of Health and Family Welfare, Government of India

## Standard Treatment Workflow (STW) TACHYARRHYTHMIA ICD-10-P29.11



**SUSPECTING TACHYARRHYTHMIA SYMPTOMS**

- Palpitations/chest discomfort
- Parents may report increased precordial activity or observe neck pulsations
- Unexplained lethargy
- Syncope/presyncope: Relatively rare in children but potentially serious

**SIGNS**


- Tachycardia out of proportion to clinical condition
- Irregular heart rate
- Unexplained heart failure

**KEY QUESTIONS**

- Is there hemodynamic instability?
- Can the heart rate be explained by clinical condition (Fever etc.)
- Is the arrhythmia incessant or episodic?
- Is there an underlying structural heart disease?
- Is this a re-entrant arrhythmia or does it involve an automatic focus?

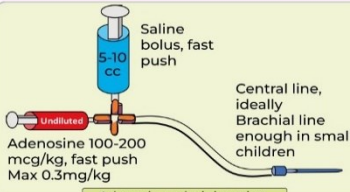
**MANAGEMENT**

**Hemodynamic Stability**

Stable	Unstable
Common Stable/minimally distressed Good perfusion	Uncommon Distressed In shock Poor perfusion; pulse not felt
<ul style="list-style-type: none"> <li>Narrow QRS tachycardia</li> <li>Regular Wide QRS tachycardia</li> <li>Irregular Wide QRS tachycardia</li> </ul>	Connect to Defibrillator paddles
	<ul style="list-style-type: none"> <li>Synchronized Cardioversion 1J/Kg</li> <li>Defibrillation 2 J/Kg</li> </ul>

**Obtain**

- 12 lead ECG; Limb leads alone if child does not cooperate (If ECG machine is unavailable, a video recording of the monitor must be obtained)
- Reliable I/V access; Proximal sites preferred



**Adenosine administration**

**REGULAR TACHYCARDIA**

**Sinus tachycardia suggested by:**

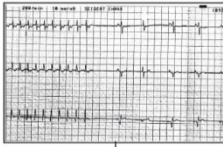
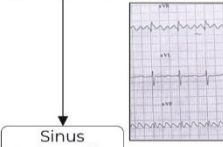
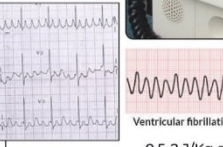
- Heart rates <220 -age
- Subtle variations in rates
- Associated fever/systemic illness other conditions
- Bronchodilators/Adrenaline nebulization
- Normal p prior to every QRS

**Tachyarrhythmia suggested by:**

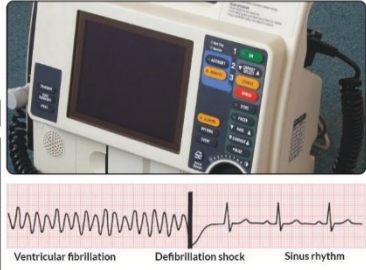
- Fixed rates often >220 -age
- Tachycardia not explained by clinical condition
- Abnormal ECG (p waves not clearly seen or different from sinus rhythm or dissociated)
- Adenosine administration with ECG record is often diagnostic

Obtaining ECG during arrhythmia is of great value as it enables precise diagnosis and treatment. All efforts must be made to document the tachyarrhythmia and it's response to treatment

**Adenosine**

Sudden termination	No effect	Slow and unmask
		
Re-entrant supraventricular tachycardia	Sinus tachycardia, Junctional ectopic tachycardia, EAT	Atrial Flutter, ectopic atrial tachycardia (EAT)

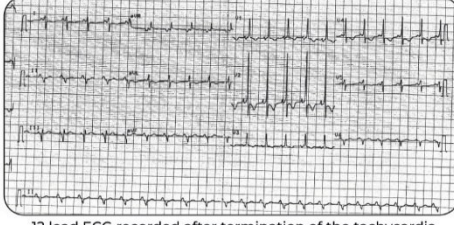
**Defibrillation**



0.5-2 J/Kg synchronized for suspected SVT/VT  
2-4 J/Kg for VF; should not be synchronized

**Adenosine**

- Proximal access
- Connect three-way to I/V port
- Adenosine 100-200 mcg/Kg rapid I/V push followed immediately by 5-10 ml saline bolus
- Always record Electrocardiogram (ECG) during administration
- Always record Electrocardiogram (ECG) after treating the arrhythmia also



12 lead ECG recorded after termination of the tachycardia showing a clear substrate in the form of pre-excitation

**ABBREVIATIONS**

EAT: Ectopic Atrial Tachycardia      SVT: Supraventricular Tachycardia      VT: Ventricular Tachycardia

**REFERENCES**

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ALWAYS TRY IDENTIFY AND DOCUMENT THE ARRHYTHMIA PRIOR TO TREATMENT

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on higher specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of ICMR for more information: ([icmr.gov.in](http://icmr.gov.in)) for more information. Indian Council of Medical Research, Ministry of Health & Family Welfare, Government of India.