Cardiac: Wide Complex Tachycardia with Pulse

Assessment

Pediatric Pearls:
- Use pediatric dosing of medications or electrical therapy for a pediatric patient < 37 kg and as defined by the PEDIA Tape.
- Focus on rapid and early BLS airway and ventilation tools. Intubation may not be the best option for these patients.
- Pediatric pads should be used in children < 10 Kg or PEDIA tape color purple.

Signs & Symptoms:
- QRS > 0.12 sec
- Ventricular tachycardia on ECG (runs or sustained)
- Conscious, rapid pulse
- Chest pain
- Shortness of breath
- Dizziness
- Rate usually 150-180 bpm for sustained V-tach

Differential:
- Artifact / Device failure
- Cardiac history
- Endocrine / Electrolyte
- Hyperkalemia
- Drugs / Toxic exposure
- Pulmonary disease
- Tricyclic OD

Clinical Management Options

Provider Level	Options
PL 1, PL 2, PL 3, PL 4, PL 5, PL 6	• Oxygen PRN titrated to SpO_2 92%-96% • Basic airway management
PL 2, PL 3, PL 4, PL 5, PL 6	• 4 lead and 12 lead ECG placement and acquisition • Apply waveform $EtCO_2$
PL 3, PL 4, PL 5, PL 6	• Vascular access • Isotonic Crystalloid PRN titrated to SBP $\geq$ 100 mmHg or MAP $\geq$ 65
PL 4, PL 5, PL 6	• Monitor and interpret ECG • If Torsades de Pointes: Magnesium Sulfate • If Torsades de Pointes: Defibrillate at maximum joules for Adult • If a Treatable cause is identified, move that treatment up in priority
PL 5, PL 6	• If Ventricular Tachycardia: Amiodarone infusion • If VT is refractory Amiodarone, then Lidocaine • Sedate with Midazolam or Ketamine • If hyperkalemia or Tricyclic OD, consider Sodium Bicarbonate early • Synchronize cardioversion at maximum Joules for Adult • For Pediatric Cardioversion 0.5 – 1.0 j/kg, repeat at 2 j/kg as needed • 12 lead ECG post conversion

Consult Online Medical Control As Needed

Pediatric Dosing Chart		3 kg	4 kg	5 kg	6-7 kgs	8-9 kgs	10-11 kgs	12-14 kgs	15-18 kgs	19-23 kgs	24-29 kgs	30-36 kgs
		6.6 lbs	8.8 lbs	11 lbs	13-15 lbs	17-20 lbs	22-24 lbs	26-30 lbs	33-40 lbs	42-50 lbs	53-64 lbs	66-80 lbs
		in18.25-20.25	in20.25-21.5	in21.5-23.25	in23.25-26.25	in26.25-29.25	in29.25-33	in33-37.5	in37.5-42.5	in42.5-47.75	in47.75-51.25	in41.25-56.25
Synchronized Cardioversion	0.5 j	1	2	2	3	4	5	7	8	10	15	15
	1.0 j	3	4	5	6	8	10	15	15	20	30	30
	2.0 j	6	8	10	15	15	20	30	30	50	50	70

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Pearls:

- Refer to drug formulary charts for all medication dosing for both adults and pediatric patients.
- For witnessed / monitor ventricular tachycardia, try having patient cough while preparing other therapies.
- Slow wide complex, consider Hyperkalemia.
- Maximum dose of antiarrhythmic should be given before changing antiarrhythmic.
- Amiodarone: allow 10 minutes after each dose completed before next dose.
- Pediatric pads should be used in children < 10 kg or PEDIA tape color purple.
- Consider a change of vector if initial Cardioversion is unsuccessful to anterior/posterior pad placement.
- Sinus tachycardia may be misinterpreted as SVT or A-Fib. Sinus tachycardia rate > 150 bpm in the adult patient or > 180 in the pediatric patient may be seen in the septic patient.