## Case 67: Out-of-Hospital Megacode Practice—Tachycardia (SVT) (Unstable Tachycardia > VF > Asystole > PCAC)

Scenario Rating: 2

**Lead-in:** You are a paramedic and arrive on the scene to find a man in respiratory arrest at a restaurant after he reportedly choked on his dinner.

Vital Signs

Heart rate: 140/min Blood pressure: 62/P mm Hg Respiratory rate: 0/min Temperature: Weight: Age: 82 years

SpO<sub>2</sub>: 88%

#### Initial Assessment

• The patient is cyanotic, warm, and dry, and EMS responders are ventilating him. What are your initial actions?

**Instructor notes:** This man had an anoxic event from a choking. The case focus, however, is the sustained apnea.

The student should begin to take a history, start an IV, and attach monitor electrodes or pads to the patient. The focus should be on recognizing the periarrest state and improving perfusion to prevent cardiac arrest.

#### Adult Tachvarrhythmia With a Pulse Algorithm (SVT)

**Instructor notes:** The student is presented with apnea. A critical action is noting that the obstruction is resolved because ventilation can be administered through bag-mask ventilation.

The anoxic event has caused perfusion changes that put the patient in a periarrest state. The monitor shows a **narrow-complex tachycardia**.

The student should recognize that the tachycardia is a symptom of the preceding event and focus his or her efforts on oxygenation and ventilation.

#### Adult Cardiac Arrest Algorithm (VF)

**Instructor notes:** The patient suddenly develops **VF**. The student will follow the VF/pVT pathway of the Adult Cardiac Arrest Algorithm.

Now the student Team Leader will assign team functions and monitor for highquality CPR.

The case should continue through safe defibrillation, administration of epinephrine, and consideration of an antiarrhythmic drug.

#### Adult Cardiac Arrest Algorithm (Asystole)

**Instructor notes:** The patient is now in asystole. The student continues to monitor high-quality CPR and follows the asystole pathway of the Adult Cardiac Arrest Algorithm.

Consider reversible causes.

#### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** The team continues high-quality chest compressions, the patient has ROSC, and the team initiates the Post–Cardiac Arrest Care Algorithm.

# Megacode Practice Learning Station Checklist: Case 67 Tachycardia → VF → Asystole → PCAC

Date of Test

Student Name

	Cri	itical Performa	nce Steps			Check if done correctly
Team Leader	/Team Member	S	**			
Team Leader ass	signs team membe	er roles	AND SERVICE A			
Ensures high- quality CPR at all times	Compression rate 100-120/min	Compression depth of ≥2 inches	Chest compression fraction >80% %	Chest recoil	Ventilation rate	
Team Leader ens	sures that team m	embers communic	ate well			
Tachycardia I	Management					
Starts oxygen if	needed, places me	onitor, starts IV				
	eads in proper pos					
	able tachycardia		CONTROL OF			Maria Carlo
Recognizes sym	ptoms due to resp	iratory arrest (cho	king)			
VF Managem	ent					
Recognizes VF						or or other states
Clears before an	alyze and shock					
	ımes CPR after sh	ocks				
	ay management	ala a ala /ala a ala ODI				
	es of drug–rnytnir ropriate drug(s) an	check/shock-CP	<b>₹</b>			
		u uoses				
Asystole Mar						
Recognizes asys			d T/o\			
		ses of asystole (H's	sand (s)			
	ropriate drug(s) an	d doses ythm and pulse ch	ooke			
		ytilin and puise cir	EUNS			
Post-Cardiac	Arrest Care					
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Considers tempe		2 0 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,		/	
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Test Results	Circle <b>PASS</b> or <b>N</b>	IR to indicate pass	s or needs remedia	tion:	PASS	NR
nstructor Initials	Instru	ıctor Number	,	Date		1
_earning Statio □ Bradvcardia	n Competency	☐ Cardiac Arrest	/Post–Cardiac Arre	est Care 🗆	Megacode	Practice

## Case 68: Out-of-Hospital Megacode Practice—Unstable Tachycardia (VT), Cardioversion (Unstable VT > VF > PEA > PCAC)

#### Scenario Rating: 2

**Lead-in:** You are a paramedic, and you arrive on scene to find a man in severe distress with crushing chest pain.

#### Vital Signs

Heart rate: Impalpable Blood pressure: 64/P mm Hg Respiratory rate: 28/min Temperature: Weight: Age: 45 years

SpO<sub>2</sub>: 89%

#### Initial Assessment

· The patient is pale, sweating profusely, and cool.

#### What are your initial actions?

**Instructor notes:** This man is presenting with signs of a severe myocardial infarction. The case focus, however, is the signs of poor perfusion. The student should begin to take a history and attach monitor electrodes or pads to the patient. The patient is in **VT** with a pulse. The focus should be on preparing for immediate synchronized cardioversion. Treatment should not be delayed to accommodate IV and preshock medication.

#### Adult Tachyarrhythmia With a Pulse Algorithm (VT)

**Instructor notes:** The student is presented with unstable VT with pulses and needs to follow the unstable VT with pulses pathway of the Adult Tachyarrhythmia With a Pulse Algorithm.

A critical action is noting that synchronized cardioversion is the necessary intervention in this periarrest state. Obtaining a 12-lead ECG or starting an IV will delay the necessary intervention.

The student should recognize that the tachycardia is the likely cause of the symptoms and focus his or her efforts on correcting the underlying rhythm.

#### Adult Cardiac Arrest Algorithm (VF)

**Instructor notes:** The patient should suddenly develop VF. The student will follow the VF/pVT pathway of the Adult Cardiac Arrest Algorithm.

Now the student Team Leader will assign team functions and monitor for high-quality CPR. The case should continue through safe defibrillation, administration of a vasopressor, and consideration of an antiarrhythmic drug.

### Adult Cardiac Arrest Algorithm (PEA)

**Instructor notes:** The patient is now in PEA. The student continues to monitor high-quality CPR and follows the PEA pathway of the Adult Cardiac Arrest Algorithm.

### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** The team continues high-quality chest compressions, the patient has ROSC, and the team initiates the Post–Cardiac Arrest Care Algorithm.

# Megacode Practice Learning Station Checklist: Case 68/71/76/79/81 Tachycardia → VF → PEA → PCAC

Student Name _		Date of Test							
	Cri	tical Performa	erformance Steps				cal Performance Steps		Check if done correctly
Team Leader/	Team Member	S							
Team Leader ass	igns team membe	er roles	The section of the section of						
Ensures high- quality CPR at all times	100-120/min	of ≥2 inches	Chest compression fraction >80%	Chest recoil	Ventilation rate				
Team Leader ens	ures that team me	embers communic	ate well						
Tachycardia M	<b>Management</b>								
Starts oxygen if r	needed, places mo	onitor, starts IV	ATT TAKEN A TO SERVICE AND A S						
	ads in proper pos								
Recognizes unsta	able tachycardia								
Performs immedi	ate synchronized	cardioversion							
VF Manageme	ent								
Recognizes VF									
Clears before and	alyze and shock								
	mes CPR after sh	ocks							
Appropriate airwa									
Appropriate cycle	es of drug-rhythm	check/shock-CPI	R						
Administers appr	opriate drug(s) an	d doses							
PEA Managen	nent								
Recognizes PEA									
Verbalizes potent	ial reversible caus	es of PEA (H's and	d T's)						
Administers appr	opriate d <mark>r</mark> ug(s) an	d dos <b>e</b> s		600.0					
Immediately resu	mes CPR after rhy	thm and pulse ch	ecks						
Post-Cardiac	Arrest Care								
Identifies ROSC									
Verbalizes need for and 12-lead ECG	are performed an	tubation and cont d O <sub>2</sub> saturation is I	inuous waveform c monitored, and orde	apnography, ers laborator	ensures BP y test				
Considers tempe	rature control	1							
		STO	P TEST						
Test Results	Circle <b>PASS</b> or <b>N</b>	R to indicate pas	s or needs remedia	ation:	PASS	NR			
Instructor Initials	Instru	ctor Number		Date	)				
<b>Learning Statio</b> ☐ Bradycardia	n <b>Competency</b>   Tachycardia	☐ Cardiac Arrest	/Post–Cardiac Arr	est Care 🛚	Megacode	Practice			

## Case 69: Out-of-Hospital Megacode Practice—Unstable Bradycardia (Unstable Bradycardia > pVT > Asystole > PCAC)

#### Scenario Rating: 2

**Lead-in:** You are a paramedic and arrive on the scene to find a man presenting with chest pain and lethargy.

#### Vital Signs

Heart rate: 50/min

**Blood pressure:** 82/P mm Hg **Respiratory rate:** 20/min

Spo<sub>2</sub>: 91% Temperature: Weight: Age: 57 years

#### **Initial Assessment**

• The patient is pale and diaphoretic with cold and clammy skin.

#### What are your initial actions?

**Instructor notes:** This man is presenting with signs of chest pain that may be caused by either the rhythm or by an underlying cardiac event. The case focus should be initiating treatment to prevent the patient from going into cardiac arrest while determining the rhythm by 12-lead ECG. The student should begin to take a history and attach monitor electrodes or pads to the patient. The patient presents with a **wide-complex bradycardic** rhythm.

#### Adult Bradycardia With a Pulse Algorithm

**Instructor notes:** The student is presented with bradycardia and needs to follow the Adult Bradycardia With a Pulse Algorithm. A critical action is obtaining a 12-lead ECG to determine the underlying cause of the rhythm. This patient's 12-lead ECG shows a **confirmed inferior wall STEM!**.

The student should recognize that the preferred means to correct the rhythm is transcutaneous pacing and focus his or her efforts on correcting the underlying rhythm.

#### Adult Cardiac Arrest Algorithm (pVT)

**Instructor notes:** The patient should suddenly develop pVT. The student will follow the VF/pVT pathway of the Adult Cardiac Arrest Algorithm.

Now, the student Team Leader will assign team functions and monitor for high-quality

The case should continue through safe defibrillation, administration of a vasopressor, and consideration of an antiarrhythmic drug.

#### Adult Cardiac Arrest Algorithm (Asystole)

**Instructor notes:** The patient is now in asystole. The student continues to monitor high-quality CPR and follows the asystole pathway of the Adult Cardiac Arrest Algorithm.

#### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** The team continues high-quality chest compressions, the patient has ROSC, and the team initiates the Post–Cardiac Arrest Care Algorithm.

# Megacode Practice Learning Station Checklist: Case 69 Bradycardia → Pulseless VT → Asystole → PCAC

Student Name	te of Test		
	Critical Performance Steps		Check if done correct
Team Leader	Team Members		
Team Leader ass	signs team member roles		
Ensures high- quality CPR at all times	Compression rate Compression Chest	recoil Ventilation rate	
Team Leader ens	sures that team members communicate well		
Bradycardia I	<b>Management</b>		
Starts oxygen if	needed, places monitor, starts IV		
Places monitor le	eads in proper position		
	otomatic bradycardia		
	ect dose of atropine		
Prepares for sec	ond-line treatment		
<b>Pulseless VT</b>	Management		
Recognizes pVT			
Clears before an			
Immediately resu Appropriate airw	mes CPR after shocks		
	es of drug–rhythm check/shock–CPR		
	opriate drug(s) and doses		
Asystole Man			
Recognizes asys			
	tial reversible causes of asystole (H's and T's)		
	opriate drug(s) and doses		
	mes CPR after rhythm and pulse checks	100000000000000000000000000000000000000	
Post-Cardiac	Arrest Care		
Identifies ROSC			
and 12-lead ECG	or endotracheal intubation and continuous waveform capnograre performed and ${\rm O_2}$ saturation is monitored, and orders laboration is monitored.		
Considers tempe	0.000		
	STOP TEST		,
Test Results	Circle <b>PASS</b> or <b>NR</b> to indicate pass or needs remediation:	PASS	NR
nstructor Initials	Instructor Number	Date	
Loorning Statio	n Competency		

☐ Bradycardia ☐ Tachycardia ☐ Cardiac Arrest/Post-Cardiac Arrest Care ☐ Megacode Practice

### Case 70: Out-of-Hospital Megacode Practice—STEMI/Unstable Bradycardia (Unstable Bradycardia > pVT > PEA > PCAC)

#### Scenario Rating: 3

**Lead-in:** You are a paramedic, in the ambulance with your EMT partner. You are dispatched to a local church service to help a woman with an altered level of consciousness.

Vital Signs

Heart rate: 40/min

Blood pressure: 80/46 mm Hg

Respiratory rate: SpO<sub>2</sub>: 94% on room air Temperature:

Weight: Age: 60 years

#### Initial Assessment

- You arrive at the scene to find a fire engine already on scene, and 2 firefighters are waiting to assist with equipment.
- One of the firefighters says that the patient is hard to arouse and she looks really sick.
- You arrive at the patient, who is supine on a bench, with several parishioners nearby.
- · She opens her eyes to loud voices but appears very confused.
- Witnesses state that she just slumped over without warning.

#### What are your initial actions?

- The patient has no respiratory distress, her skin is cold and clammy, and her lungs are clear.
- While you are acquiring a 12-lead ECG, family members state that she has a history of non-insulin-dependent diabetes mellitus and gastroesophageal reflux disease and a family history of cardiac problems.
- The 12-lead ECG shows a sinus bradycardia at 40/min, with ST elevation in leads III and aVF, and V<sub>x</sub>R shows ST elevation as well.

#### Adult Bradycardia With a Pulse Algorithm

**Instructor notes:** The Team Leader should recognize the bradycardia as symptomatic and verbalize the need for atropine.

While you are initiating an IV, the patient starts having agonal respirations and becomes unresponsive.

She is now pulseless, and the limb leads show monomorphic VT.

#### Adult Cardiac Arrest Algorithm (pVT)

**Instructor notes:** After high-quality CPR, 3 shocks, placement of an advanced airway, a dose of epinephrine, and 300 mg amiodarone, the monitor shows a rhythm consistent with the one originally noted (sinus bradycardia with ST elevation in lead III) before arrest occurred, but no pulse is present (**PEA**).

#### Adult Cardiac Arrest Algorithm (PEA)

**Instructor notes:** After another minute of CPR, the quantitative capnography reading goes from 18 mm Hg to 55 mm Hg. Rhythm and pulse checks reveal that the patient has ROSC.

#### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** Further assessment after ROSC reveals that the patient has a Glasgow Coma Scale score of 3; she is apneic, and ventilation is being assisted through an advanced airway, with a capnography reading of 44 mm Hg.

Her blood pressure is 88/50 mm Hg, and her finger-stick glucose is 285 mg/dL (15.8 mmol/L). The nearest hospital is 12 minutes from the scene, and a cardiac arrest receiving center is 30 minutes from the scene.

# Megacode Practice Learning Station Checklist: Case 70/73 Bradycardia → Pulseless VT → PEA → PCAC

	Cri	tical Performa	nce Steps			Check if done correct
Team Leader/	Team Member	<b>s</b>				
Team Leader ass	i <b>gn</b> s team membe	er roles				
Ensures high- quality CPR at all times	Compression rate 100-120/min	Compression depth of ≥2 inches	Chest compression fraction >80%	Chest recoil	Ventilation rate	
Team Leader ens	ures that team me	embers communic	ate well		0.000	
Bradycardia M	Management					
Starts oxygen if r	needed, places mo	onitor, starts IV				
Places monitor le	ads in proper pos	ition				
Recognizes symp	otomatic bradycar	dia	W448418	100		8.0
Administers corre	ect dose of atropir	ne				
Prepares for seco	ond-line treatment		E TOTAL METERS			
Pulseless VT	Management					
Recognizes pVT						
Clears before ana						
	mes CPR after sho	ocks				
Appropriate airwa		check/shock-CPF	)			
	opriate drug(s) and		1			<u> </u>
PEA Managen						
Recognizes PEA						
Verbalizes potent	ial reversible caus	es of PEA (H's and	T's)	Pale Colo		
	opriate drug(s) and					
mmediately resu	mes CPR after rhy	thm and pulse che	ecks			
Post-Cardiac	Arrest Care					
dentifies ROSC			The second reading reads			
and 12-lead ECG	are performed and	tubation and contild $O_2$ saturation is n	nuous waveform ca nonitored, and orde	pnography, e rs laboratory	nsures BP test	
Considers temper	rature control	<u> </u>	A SAME SAME PART			
		STOF	TEST			
Test Results	Circle <b>PASS</b> or <b>N</b> I	R to indicate pass	or needs remediat	ion:	PASS	NR

# Case 72: Out-of-Hospital Megacode Practice—Unstable Tachycardia (Unstable Tachycardia > VF > Asystole > PCAC)

#### Scenario Rating: 2

**Lead-in:** You are a paramedic treating a woman who collapsed after reporting nausea and dizziness.

#### Vital Signs

Heart rate: Blood pressure: Respiratory rate: Temperature: Weight: Age: 63 years

SpO<sub>2</sub>:

#### Initial Assessment

- · The patient is lying on the floor.
- She is cyanotic and taking agonal respirations.

#### What are your initial actions?

**Instructor notes:** First responders are assembling the bag-mask device when you walk into the room. The student should ensure that the patient is being properly ventilated by first responders.

The student can choose to continue ventilation with the bag-mask device or to insert an advanced airway. Advanced airway insertion will require the use of waveform capnography.

The student should start an IV and attach monitor electrodes or pads to the patient. The ECG is **sinus tachycardia with multiple PVCs**.

#### Adult Tachyarrhythmia With a Pulse Algorithm

Instructor notes: The patient suddenly develops a wide-complex tachycardia. The radial pulse disappears; however, the student can still feel a carotid pulse.

The student should deliver immediate electrical cardioversion. Blood pressure is 78/56 mm Hg. Consideration of drug therapy should not delay cardioversion.

#### Adult Cardiac Arrest Algorithm (VF)

**Instructor notes:** After a single cardioversion attempt, the patient develops **VF**. The student will follow the VF/pVT pathway of the Adult Cardiac Arrest Algorithm.

The student should assign team functions and monitor for high-quality CPR. The case should continue through safe defibrillation, administration of epinephrine, and consideration of an antiarrhythmic drug.

#### Adult Cardiac Arrest Algorithm (Asystole)

**Instructor notes:** Before the student can administer an antiarrhythmic drug, the patient develops **asystole**.

The student continues to monitor high-quality CPR and follows the asystole pathway of the Adult Cardiac Arrest Algorithm. The student should consider the H's and T's.

#### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** After the second dose of epinephrine, the ECG displays an organized rhythm. The rate increases, and the patient has ROSC.

The student should initiate the Post-Cardiac Arrest Care Algorithm.

### Megacode Practice Learning Station Checklist: Case 72 Tachycardia → VF → Asystole → PCAC

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			ate or lest		
Crī	tical Performa	nce Steps			Check if done correctly
Team Member	Š				
signs team membe	er roles				
		Chest compression fraction >80%	Chest recoil	Ventilation rate	
sures that team me	em <mark>bers</mark> communic	ate well			
Management					
needed, places mo	onitor, starts IV				
able tachycardia					
ptoms due to tach	ycardia				
iate synchronized	cardioversion				
ent					
		STANDON STANDS			
	ocks				
ay management	check/shock-CPI	3			
ropriate drug(s) an	d doses				17-20-11-01-01-01-01-01-01-01-01-01-01-01-01
			5		
	ses of asystole (H's	and T's)			
		ecks .			
Arrest Care					
		Company of Company			
are performed ar	ntubation and cont ad O <sub>2</sub> saturation is	inuous waveform ca monitored, and orde	apnography, ers laborator	ensures BP y test	
erature control		A ABBUS UKU MAS			
	STO	P TEST			
Circle PASS or N	IR to indicate pas	s or needs remedia	ation:	PASS	NR
Instru	uctor Number		Date		
n Competency    Tachycardia	☐ Cardiac Arrest	/Post–Cardiac Arre	est Care 🛚	Megacode	Practice
	igns team member of the compression rate 100-120/min sures that team member of the compression rate 100-120/min sures that team member of the compression rate and sin proper possible tachycardia proms due to tach interest can be compressed on the compression of the compression o	igns team member roles    Compression rate   Compression depth     100-120/min   of ≥2 inches     Sures that team members communic     Management     needed, places monitor, starts   V     eads in proper position     able tachycardia     ptoms due to tachycardia     iate synchronized cardioversion     ent     allyze and shock     mes CPR after shocks     ay management     es of drug—rhythm check/shock—CPI     ropriate drug(s) and doses     agement     tole     tial reversible causes of asystole (H's     ropriate drug(s) and doses     umes CPR after rhythm and pulse ches     Arrest Care     for endotracheal intubation and contour     are performed and O₂ saturation is interactive control     STO     Circle PASS or NR to indicate passent     Instructor Number     Instructor Number     Incompetency     Incompetency     Incompetency     Incompetency     Instructor Number     Incompetency     Instructor Number     Instructor Number     Instructor     Instr	Critical Performance Steps    Team Members	Critical Performance Steps  Team Members  Identification and Compression depth Chest compression Chest recoil 100-120/min of ≥2 inches fraction >80% // 9%  Identification and Compression depth Chest compression Chest recoil 100-120/min of ≥2 inches fraction >80% // 9%  Identification and compression depth Chest compression Chest recoil 100-120/min of ≥2 inches fraction >80% // 9%  Identification and Signature of Performance well  Wanagement  Identification and shock surface of the state of the	Critical Performance Steps  Team Members  signs team member roles    Compression rate   Compression depth   Chest compression   Chest recoil   Ventilation   rate   100-120/min   of £2 inches   fraction >80%

# Case 74: Out-of-Hospital Megacode Practice—Unstable Tachycardia (SVT) (Unstable Tachycardia > pVT > PEA > PCAC)

Scenario Rating: 2

Lead-in: You are a paramedic treating a man with an altered mental status.

#### Vital Signs Heart rate:

Blood pressure: 80 mm Hg palpated

Respiratory rate: 22/min

SpO<sub>2</sub>:

Temperature: Weight: Age: 57 years

#### Initial Assessment

- The patient was working in the yard and told his wife he was feeling dizzy.
- He sat on the porch and soon had noticeable changes in mental status.

### What are your initial actions?

Both radial and brachial pulses are too weak to reliably count.

### Adult Tachyarrhythmia With a Pulse Algorithm

**Instructor notes:** The ECG shows **atrial fibrillation with multiple PVCs**. The student should follow the Adult Tachyarrhythmia With a Pulse Algorithm. The student should begin to take a history, start an IV, and prepare sedation for cardioversion.

### Adult Cardiac Arrest Algorithm (pVT)

**Instructor notes:** Before the student can administer the sedation, the patient loses consciousness. The ECG displays **VT**. There is no pulse.

The student will follow the VF/pVT pathway of the Adult Cardiac Arrest Algorithm. The student should assign team functions and monitor for high-quality CPR.

The case should continue through safe defibrillation, administration of epinephrine, and consideration of an antiarrhythmic drug.

### Adult Cardiac Arrest Algorithm (PEA)

**Instructor notes:** After the administration of the vasopressor, the patient develops an **organized rhythm that is fast**. There is no pulse. The patient is now in PEA.

The student continues to monitor high-quality CPR and follows the PEA pathway of the Adult Cardiac Arrest Algorithm. The student should consider the H's and T's.

### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** After administering a fluid bolus, the student can now detect a carotid pulse. The patient has ROSC.

The student should initiate the Post-Cardiac Arrest Care Algorithm.

# Megacode Practice Learning Station Checklist: Case 74/77 Tachycardia → Pulseless VT → PEA → PCAC

tudent Name _				ate or lest_		
		itical Performa	nce Steps			Check if done correctly
Team Leader/	Team Member	rs				
Team Leader ass	igns team memb	er roles				
Ensures high- quality CPR at all times	Compression rate 100-120/min	Compression depth of ≥2 inches	%	Chest recoil	Ventilation rate	
Team Leader ens	ures that team m	nembers communic	ate well			
Tachycardia M	Management					075-01-003-01
Starts oxygen if r Places monitor le Recognizes unst Recognizes symi	needed, places m eads in proper po	hycardia				
	Management 1	a carare				
Appropriate airw Appropriate cycl Administers app	umes CPR after s vay management les of drug–rhyth ropriate drug(s) a	m check/shock-CF	PR			
<b>PEA Manage</b>	A STATE OF THE PARTY OF THE PAR					
Administers app	ntial reversible ca propriate drug(s) a	uses of PEA (H's an and doses hythm and pulse cl				
	c Arrest Care					
Identifies ROSC	for endotrachea G are performed	l intubation and cor and O <sub>2</sub> saturation is	ntinuous waveform s monitored, and or	capnography, ders laborator	ensures BP ry test	
00/10/00/0		STO	OP TEST			
Test Results	Circle <b>PASS</b> o	r <b>NR</b> to indicate pa	ss or needs remed	liation:	PASS	NF
		tructor Number			e	

### Case 75: Emergency Department Megacode Practice— Unstable Bradycardia (Unstable Bradycardia > VF > Asystole > PCAC)

#### Scenario Rating: 2

**Lead-in:** You receive a 5-minute notification of an inbound woman reporting nausea and vomiting, abdominal pain, and low blood pressure. By report, the patient is placed on oxygen and vital signs are obtained.

Vital Signs

Heart rate: 43/min Blood pressure: 70 mm Hg/palp Respiratory rate: 14/min SpO<sub>a</sub>: 95% on 100% oxygen Temperature: Weight: Age: 75 years

#### Initial Assessment

#### What are your initial actions upon arrival?

**Instructor notes:** The initial differential diagnosis is broad: acute coronary syndrome, abdominal aortic aneurysm, and sepsis syndrome. The initial focus will be the bradycardia.

A history is obtained that indicates hypertension, hyperlipidemia, and previous NSTE-ACS with stents twice. Symptoms begin just before the EMS call.

An IV is started and the patient is placed on a monitor with pacer pads. Her vital signs are similar to her prehospital vital signs. The ECG shows a **second-degree type I AV block**.

#### Adult Bradycardia With a Pulse Algorithm

Instructor notes: The student should recognize unstable bradycardia and follow the Adult Bradycardia With a Pulse Algorithm. The critical action is to note the abnormal heart rate and hypotension. The bradycardia is narrow complex without ST changes.

The patient is unstable and given IV atropine (1 mg) twice without change in heart rate or blood pressure. While the dopamine infusion is being prepared, the patient becomes unresponsive.

What is the next action?

#### Adult Cardiac Arrest Algorithm (VF)

**Instructor notes:** The monitor demonstrates **VF**. The patient has no pulse. CPR is started. The VF/pVT pathway should be followed. The patient is shocked twice. Epinephrine is given. An advanced airway is obtained.

During rhythm check, the monitor shows **asystole**. No pulse or spontaneous respirations are confirmed.

#### Adult Cardiac Arrest Algorithm (Asystole)

**Instructor notes:** CPR is continued. Ventilation at 100% oxygen continues. Another dose of epinephrine is given.

#### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** The team continues high-quality chest compressions, waveform capnography jumps to 52 mm Hg, and compressions are paused for rhythm and pulse checks that reveal a sinus tachycardia at 126/min.

Initiate the Post-Cardiac Arrest Care Algorithm.

# Megacode Practice Learning Station Checklist: Case 75/78 Bradycardia → VF → Asystole → PCAC

Student Name Date of Test							
	Cri	tical Performa	nce Steps			Check if done correctly	
Team Leader/	Team Member	s					
Team Leader ass	igns team membe	er roles	SALEN CHINE				
Ensures high- quality CPR at all times	Compression rate 100-120/min	Compression depth of ≥2 inches	Chest compression fraction >80%	Chest recoil	Ventilation rate		
Team Leader ens	ures that team me	embers communic	ate well				
Bradycardia M	Management						
Starts oxygen if r	needed, places mo	onitor, starts IV					
	ads in proper pos						
Recognizes symp	otomatic bradycar	dia	CAND CH				
Administers corre	ect dose of atropi	ne				A2411 (1941) W. A. A. B. A. B. C.	
Prepares for seco	ond-line treatmen	t					
VF Manageme	ent						
Recognizes VF							
Clears before and						September 1981 December 1981	
	mes CPR after sh	ocks					
Appropriate airwa	ay management	ala a la fala a ala ODI	_				
Appropriate cycle	es of drug-rnytnm opriate drug(s) an	check/shock-CPI	7				
Asystole Man		d doses					
						Economistra de la companiona de la compa	
Recognizes asys		ses of asystole (H's	and T'c)				
	opriate drug(s) an		and 1 3/				
		ythm and pulse ch	ecks				
Post-Cardiac		yemmana palee on					
Identifies ROSC	Allest Cale						
Verbalizes need f	or endotracheal in	ntubation and cont	inuous waveform c	apnography.	ensures BP		
and 12-lead ECG	are performed ar	nd O2 saturation is	monitored, and ord	ers laborator	y test		
Considers tempe	rature control	4	the state of the s				
		STO	P TEST				
Test Results	Circle PASS or N	IR to indicate pas	s or needs remedia	ation:	PASS	NR	
Instructor Initials	Instru	uctor Number		Date	9		
Learning Statio	n Competency		/D		1 Mans = = sl =	Drootics	
☐ Bradycardia	☐ Tachycardia	☐ Cardiac Arrest	/Post-Cardiac Arr	est Care L	ıviegacode	Practice	

# Case 80: In-Hospital Intermediate Medical-Surgical Unit Megacode Practice—Stable/Unstable Tachycardia (Stable/Unstable Tachycardia > VF > PEA > PCAC)

#### Scenario Rating: 3

**Lead-in:** You are a health care professional on an intermediate medical-surgical unit, checking on your patients, when you hear an overhead page (coded) that an intruder is in the hospital. One of your patients was involved in a bar fight and sustained several lifethreatening injuries. As the message is delivered, you hear him screaming, "I'm dying—I've been shot!" and you see an unfamiliar man run out of the unit.

Vital Signs

Heart rate: 130/min Blood pressure: 90/60 mm Hg Respiratory rate: 40/min Spo<sub>2</sub>:

Temperature: Weight: Age: 22 years

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#### Initial Assessment

 While you assess your patient, replacing his nonrebreathing mask and checking IV patency, you notice a chest wound at his left lower rib cage.

#### What are your initial actions?

**Instructor notes:** This patient has high potential to experience a respiratory arrest. The focus of this case initially is tachycardia, tachypnea, and hypotension.

Because you know the history of the patient, stabilizing vital signs and the open wound and calming your patient are priorities. You should continue to monitor narrow, rapid cardiac rhythm, increased respiratory rate, and hypotension.

### Adult Tachyarrhythmia With a Pulse Algorithm

**Instructor notes:** Your patient most likely has a sucking chest wound, which can impair breathing due to interruption in the lungs, the diaphragm, and/or the chest wall.

Because your patient has a large defect in his chest wall, he will need a chest tube and, most likely, surgery. So, his **tachycardia** could be caused by the impaired lung integrity or loss of blood from the gunshot wound.

You should be aware of signs of distress, such as continued dyspnea, chest pain, and decreased breath sounds on the side of the injury. If these signs are not acknowledged, your patient will have a respiratory arrest.

#### Adult Cardiac Arrest Algorithm (VF)

**Instructor notes:** Shortly after your patient experiences respiratory arrest and you begin ventilation, the patient goes into **VF**. Initiate high-quality CPR and prepare to defibrillate.

#### Adult Cardiac Arrest Algorithm (PEA)

**Instructor notes:** Despite adequate management of VF, the patient remains in cardiac arrest.

Options to consider:

- Indication for an emergency thoracotomy in the emergency department or on a surgical floor
- High-quality CPR, ongoing epinephrine as indicated, and a verbalization of the differential diagnosis while preparing to move to surgery

After the second shock and continued CPR, the rhythm changes to a **wide-complex tachycardia**. There is no pulse.

#### Post-Cardiac Arrest Care Algorithm

**Instructor notes:** After another round of CPR and medications, the patient regains a pulse. The student will be expected to reassess vital signs and initiate the Post–Cardiac Arrest Care Algorithm.

# Megacode Practice Learning Station Checklist: Case 80 Tachycardia $\rightarrow$ VF $\rightarrow$ PEA $\rightarrow$ PCAC

Student Name			Date of Test				
	Cri	itical Performa	nce Steps			Chec if dor correc	
Team Leader	Team Member	S					
Team Leader ass	igns team membe	r roles					
Ensures high- quality CPR at all times	Compression rate 100-120/min	Compression depth of ≥2 inches	Chest compression fraction >80%	Chest recoil	Ventilation rate		
Team Leader ens	ures that team me	mbers communic	ate well				
Tachycardia M	Management						
Places monitor le Recognizes unsta		tion				30 M	
	toms due to guns	not wound					
VF Manageme Recognizes VF	ent						
Appropriate airwa Appropriate cycle	nes CPR after sho	check/shock-CPR					
PEA Managem		46565					
Recognizes PEA				The Part of the Control of the Contr			
	al reversible cause	s of PEA (H's and	T's)				
Administers appro	priate drug(s) and	doses					
mmediately resum	nes CPR after rhyt	hm and pulse ched	cks				
Post-Cardiac A	Arrest Care						
dentifies ROSC							
THE TE TOUG LOOK	ic periorifica and	ibation and contin O₂ saturation is mo	uous waveform cap onitored, and order	nography, e	nsures BP test		
Considers tempera	ture control						
	4	STOP	TEST				
est Results C	Circle PASS or NR	to indicate pass c	or needs remediation	on:	PASS	NR	
		or Number		Date_			
earning Station ( ] Bradycardia 🛭	Competency   Tachycardia   🗆	Cardiac Arrest/P	ost–Cardiac Arres	t Care □ M	legacode Pi	ractice	