2007
37th Annual Ontario Open
First Aid Competition

Stairs TEAM SCENARIO

Background Scenario

The patient in this problem is a white male pre-teen who has suffered a cardiac arrest.

Unlike adults, children and teens do not *usually* have coronary artery disease and get "heart attacks".

This patient's cardiac arrest is from a collapsed lung (tension pneumothorax) and hypoxemia (low blood oxygen) that resulted from a broken rib sustained when he fell against a metal railing. The patient felt a little "shaken up" after this and left his session at the Health and Safety conference.

This patient was at risk because he has Cystic Fibrosis (CF), a common chronic condition best known for its lung effects. Most patients are male and Caucasian (white).

However, Cystic Fibrosis affects many parts of the body. It impairs absorption of nutrients from the intestine and thus our CF patient while 11 years old is skinny and small for his age and will be represented by a child manikin.

Also, while the ribs of young people and babies are normally strong and flexible, our CF patient has relatively brittle bones caused by lack of vitamins (from the effects on the intestine) and steroid medications used to manage the lung effects of CF. Steroid drugs cause bone to lose strength and fracture more easily.

Hence, what would otherwise be an innocent bump to a healthy person has caused a rib fracture and the broken rib has punctured and collapsed the lung. With lungs diseased by CF and one lung collapsed the patient had a very hard time breathing. Unable to even call for help, the patient slipped into cardiac arrest in the stairwell on the way to his locker. Because the patient is used to getting short of breath he had his puffer in his hand before his arrest.

When a tension pneumothorax causes pulselessness in a paediatric patient it is caused by a heart rhythm called Pulseless Electrical Activity. In this condition, the electrical activity of the heart continues in a fairly normal way but there is no contraction of the heart muscle. Also, because the heart electricity and rhythm are normal and not in fibrillation (ie a No Shock Advised) there is **no role or use** for defibrillation by a defibrillator.

To start the scenario, you should tell the team that they hear a cry of "HELP !!" from in the stairwell.

That "Help" was the patient's very last breath and when they reach the manikin the patient will be face down on the steps, holding his puffer and in full cardiac and respiratory arrest.

You as judge will try to be as inconspicuous as possible as there is nobody else in the stair area. This will make it as realistic as possible.

The team will have to initiate CPR (quickly turn the patient over) and the best teams will also work in a secondary assessment and find the bruising over the ribs.

There will also be an inhaler there too but there is no role for it in cardiac arrest and post arrest the patient will not feel the need to use it.

Because there is a collapsed lung only one side of the chest will rise with artificial respiration – the best teams may be able to put this and the bruising and the history together and suspect a collapsed lung – we will soon find out !

Cystic Fibrosis is the most common lethal genetic disease in the Caucasian population
In the 1960's, few patients lived long enough to attend high school, now many CF patients are in their 40's
Cystic Fibrosis is a genetic disease (the defective gene discovered by scientists at SickKids in Toronto)

Casualty

INJURIES

- **Bruising over the right anterior upper chest area** resulting from **rib fractures** sustained from a fall against a metal railing in the stairwell.
- **Cardiac and respiratory arrest** with recovery of circulation after about 5 minutes of CPR

PROPS

- 1 clipboard per judge for use of judge in marking etc.
- 1 Resusci-Child manikin dressed in shorts and T-Shirt with bruising applied as above
- 1 Puffer placebo inhaler in hand of manikin and labeled
- Ventolin: John SMITH
  Ventolin 100mcg/spray Take 2 sprays when needed Dr. Jones
- 1 "Fanny-Pack" per manikin - including contents of:
  - including pen and paper for team – with supply to restock for the day,
  - 2 – "Face Shields" or other barrier device per fanny pack, per team.
- 1 Medic-Alert bracelet "Cystic Fibrosis / Diabetes" for each manikin

CASUALTY and JUDGE'S PROMPTS

- Will remain VITAL SIGNS ABSENT until 5 minutes of CPR and then will have pulse but need breathing assistance (rescue breathing) for the next 5 minutes
- The manikin will be wearing a Medical Alert Bracelet (Cystic Fibrosis - Diabetes)

JUDGE'S PROMPTS

- Judges need to observe the CPR very closely and judge very tightly the technique
- Judges need to keep their own times
- If the team sends a team member to call 911 – they will be kept out of the scenario until the first set of CPR (ie. One minute) compressions and breaths by the single rescuer is complete.
- For the 1st TEAM CPR set of compressions and breaths there will be an airway obstruction with the first attempt to rescue breath. This will clear when the team re-positions.
- Time Cues: 2 minute – all primary assessment marks are closed
- Event Cue: After about 20 compressions on the 5th minute of CPR the Judge will tell the team that the casualty is moving (ie. to prompt team to reassess patient)
- The Problem WILL FINISH **6 minutes** after the return of pulse.
- The judge will tell the team that EMS has arrived and is taking over care

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TEAM Information

Please **print** the following information:

Team Number _____

Team Member #1 (Red Band) _____

Team Member #2 _____

Judges' Names _____

Page 4 Primary Survey Page 1 Total _____
(Possible 240)

Page 5, Secondary Survey Page 1, Sub-Total _____
(Possible 240)

Page 6, Secondary Survey Page 2, Sub-Total _____
(Possible 340)

Page 7, Secondary Survey Page 3, Sub-Total _____
(Possible 140)

Secondary Survey Points Total _____
(Possible 720)

Total Points Awarded Primary + Secondary Total (Possible 960)	

Individual Scenario

	SCENE / PRIMARY SURVEY: This section is active for the **first 2 minutes of the scenario only**. During these first 2 minutes, the competitor may perform the actions that are both listed here and in the Secondary Survey. After the 2 minutes, the competitor is eligible to receive marks only in the Secondary Survey and no marks may be awarded in this Primary Survey. ***Actions in this section may be done in any order.***	**A/S**	**POINTS**	**NOT DONE**
1.1	Did First Aider take charge of the situation? *(proceed though door in response to Help call)*	**S**	**10**	**0**
1.2	Did First Aider I.D. self and offer to help? *(no response)*	**A/S**	**10**	**0**
1.3	Did First Aider activate EMS ? *(cell phone, firearm, sending team member; if sent; hold for 30 seconds)*	**A**	**10**	**0**
1.4	Did First Aider send second rescuer to Phone 911 ? *(partner will be out of scenario until after 1 st CPR cycle done)*	**A**	**10**	**0**
1.5	Did First Aiders describe that they would look for an AED ? (*none available)*	**A**	**10**	**0**
1.6	Did First Aider calling 911 give accurate location of patient ? *(must include "Millikin Mills School" and "stairwell" for marks)*	**A**	**10**	**0**
1.7	Were hazards assessed ? *(none apparent)*	**S**	**10**	**0**
1.8	Did First Aider determine if there are other casualties ?	**S**	**10**	**0**
1.9	Did First Aider determine/state the mechanism of injury ? *(look for and remark on lack of obvious trauma- puffer etc.)*	**A/S**	**20**	**0**
1.10	Did First Aider assess responsiveness in position found ? *(unresponsive)*	**A/S**	**10**	**0**
1.11	Did First Aider assess airway in the position found ? *(closed)*	**A/S**	**10**	**0**
1.12	Did First Aider open airway ? *(airway opens)*	**A/S**	**10**	**0**
1.13	Did First Aider assess breathing ? *(ineffective gasps)*	**A/S**	**10**	**0**
1.14	Did the first aider *properly* roll the patient ?	**A**	**10**	**0**
1.15	Did First Aider insure that patient is on a firm/level surface ?	**A**	**10**	**0**
1.16	Did First Aiders move, position and protect themselves and casualty in a safe manner onto the stairwell landing.	**A**	**10**	**0**
1.17	Did First Aider # 1 properly apply & use protective mask ?	**A**	**10**	**0**
1.18	Did the First Aider give two breaths ?	**A**	**10**	**0**
1.19	Were the breaths approximately 1 second each ?	**A**	**10**	**0**
1.20	Did the First Aider assess for chest rise ?	**A**	**10**	**0**
1.21	Did the First Aider check for signs of circulation ? (none)	**A**	**10**	**0**
1.22	Did the First Aider start CPR within 2 minute time period ?	**A**	**20**	**0**
	SUB-TOTAL POINTS AWARDED			
	Page 1 – PRIMARY SURVEY (Possible 240)			

SECONDARY SURVEY: Actions in this section may be performed by the competitor in the first 2 minutes of the scenario as well as the **Primary Survey.** After the first 2 minutes, this is the only section that points shall be awarded to. ***Actions in this section may be done in any order.***		**A/S**	**POINTS**	**NOT DONE**
2.0	**History of the casualty:**			
2.1	Did the First Aiders discover casualty's name from puffer ?	**S**	**20**	**0**
2.2	Did the First Aider read the patient's medical alert device ? *(Cystic Fibrosis – Diabetes)*	**A/S**	**20**	**0**
2.3	Did First Aiders find the pen and paper in the Fannypack ?	**A**	**10**	**0**
3.0	**Casualty - Head to Toe Assessment**			
3.1	Check scalp ? *(no deformity)*	**A**	**10**	**0**
3.2	Check eyes ? *(pupils 3mm equal and non-reactive to light)*	**A**	**10**	**0**
3.3	Check nose ? *(no deformity)*	**A**	**10**	**0**
3.4	Check mouth ? *(no abnormality)*	**A**	**10**	**0**
3.5	Check jaw ? *(no deformity)*	**A**	**10**	**0**
3.6	Check ears ? *(no deformity)*	**A**	**10**	**0**
3.7	Check neck ? *(normal)*	**A**	**10**	**0**
3.8	Check collarbones ? *(no deformity)*	**A**	**10**	**0**
3.9	Check shoulders ? *(no deformity)*	**A**	**10**	**0**
3.10	Check arms/hands ? *(normal)*	**A**	**10**	**0**
3.11	Check chest ? *(bruising right upper front of chest)*	**A**	**10**	**0**
3.12	Check abdomen ? *(no deformity)*	**A**	**10**	**0**
3.13	Check back ? *(no deformity)*	**A**	**10**	**0**
3.14	Check pelvis ? *(no deformity)*	**A**	**10**	**0**
3.15	Check both legs ? *(no deformity)*	**A**	**10**	**0**
3.16	Check both ankles and feet ? *(no deformity)*	**A**	**10**	**0**
4.0	**Personal Protective Equipment:** Were protective barriers used.	**A**	**10**	**0**
4.1	Were protective barriers effectively used throughout CPR?	**A**	**10**	**0**
4.2	Did First Aider # 2 properly apply & use a second protective mask ?	**A**	**10**	**0**
SUB-TOTAL POINTS AWARDED **Page 1 – SECONDARY SURVEY** (Possible 240)				

5.0	**CPR:**			
5.1	Was the 1st CPR minute done with 30:2 [compressions:breaths] if one rescuer **OR** 15: 2 if two rescuers ? *(either 1 or 2 rescuer is ok)*	**A**	**10**	**0**
5.2	Was the 1st CPR minute done with acceptable hand positioning ?	**A**	**10**	**0**
5.3	Was the mouth seal effective ? *(no leaks / chest rise on manikin)*	**A**	**10**	**0**
5.4	Was the 1st CPR minute done with compressions to proper depth ?	**A**	**10**	**0**
5.5	Did the rescuer allow for an adequate chest release phase ?	**A**	**10**	**0**
5.6	Did the 1st CPR minute use a rate of 100 compressions per minute ? *(as per judge's best observation)*	**A**	**10**	**0**
5.7	Did the Rescuer use an effective airway opening manoeuver ?	**A**	**10**	**0**
5.8	Did the rescuer re-position the airway when air did not enter ?	**A**	**10**	**0**
5.9	Was the 2nd CPR minute done with 30:2 [compressions:breaths] if one rescuer **OR** 15: 2 if two rescuers? *(either 1 or 2 rescuer is ok)*	**A**	**10**	**0**
5.10	Was the 2nd CPR minute done with acceptable hand positioning ?	**A**	**10**	**0**
5.11	Was the mouth seal effective ? *(no leaks / chest rise on manikin)*	**A**	**10**	**0**
5.12	Was the 2nd CPR minute done with compressions to proper depth ?	**A**	**10**	**0**
5.13	Did the rescuer allow for an adequate chest release phase ?	**A**	**10**	**0**
5.14	Did the 2nd CPR minute use a rate of 100 compressions per minute ? *(as per judge's best observation)*	**A**	**10**	**0**
5.15	Did the Rescuer use an effective airway opening manoeuver ?	**A**	**10**	**0**
5.16	Did the rescuers switch positions *at some time during the* CPR portion of the problem ?	**A**	**10**	**0**
5.17	Was the time to change positions less than 10 seconds ?	**A**	**10**	**0**
5.18	Was the 3rd CPR minute done with 30:2 [compressions:breaths] if one rescuer **OR** 15: 2 if two rescuers? *(either 1 or 2 rescuer is ok)*	**A**	**10**	**0**
5.19	Was the 3rd CPR minute done with acceptable hand positioning ?	**A**	**10**	**0**
5.20	Was the mouth seal effective ? *(no leaks / chest rise on manikin)*	**A**	**10**	**0**
5.21	Was the 3rd CPR minute done with compressions to proper depth ?	**A**	**10**	**0**
5.22	Did the rescuer allow for an adequate chest release phase ?	**A**	**10**	**0**
5.23	Did the 3rd CPR minute use a rate of 100 compressions per minute ? *(as per judge's best observation)*	**A**	**10**	**0**
5.24	Did the Rescuer use an effective airway opening manoeuver ?	**A**	**10**	**0**
5.25	Did the rescuers stop compressions when patient moved ?	**A**	**10**	**0**
5.26	Did the rescuers assess for signs of circulation ? *(patient moving, pulse now present)*	**A**	**10**	**0**
5.27	Did the rescuers assess for effective breathing ? *(patient more pink, respiratory rate of 20/ min, effective, coughs)*	**A**	**10**	**0**
5.28	Was the heart rate checked after the return of pulse ? *(65 /min, weak and regular)*	**A**	**10**	**0**
5.29	Was the level of consciousness checked after the return of pulse ? *(unresponsive)*	**A**	**10**	**0**
5.30	Was the patient placed into semi-prone / recovery position after the return of pulse ?	**A**	**10**	**0**
5.30	Was the skin temperature and condition checked after the return of pulse ? *(pale/bluish, dry , cool)*	**A**	**10**	**0**
5.31	Was the heart rate checked **a 2nd time** after the return of pulse ? *(65 /min, weak and regular)*	**A**	**10**	**0**
5.32	Was the level of consciousness checked **a 2nd time** after the return of pulse ? *(unresponsive)*	**A**	**10**	**0**
5.33	Was the skin temperature and condition checked **a 2nd time** after the return of pulse ? *(pale/bluish, dry , cool)*	**A**	**10**	**0**
SUB-TOTAL POINTS AWARDED				
Page 2 – SECONDARY SURVEY (Possible 340)				

6.0	**Recording**			
6.1	Was the date and time recorded accurately ?	**A**	**5**	**0**
6.2	Was the patient's name recorded accurately ? *(name recorded as on puffer)*	**A**	**5**	**0**
6.3	Was the First Aider #1's name recorded accurately ?	**A**	**5**	**0**
6.4	Was the First Aider #2's name recorded accurately ?	**A**	**5**	**0**
6.5	Was the initial Level of Consciousness recorded with the time taken ? *(If no time recorded, then no mark.)*	**A**	**5**	**0**
6.6	Was the initial Respirations recorded with the time taken ? *(If no time recorded, then no mark.)*	**A**	**5**	**0**
6.7	Was the initial Pulse recorded with the time taken ? *(If no time recorded, then no mark.)*	**A**	**5**	**0**
6.8	Was the initial Skin Condition recorded with the time taken ? *(pale, clammy)*	**A**	**5**	**0**
6.9	Was the initial Skin Temperature recorded with the time taken ? *(cool -If no time recorded, then no mark.)*	**A**	**5**	**0**
6.10	Was incident history recorded ? *(found vital signs absent)*	**A**	**5**	**0**
6.11	Was the presence of bruising on the chest recorded ?	**A**	**10**	**0**
6.12	Was the presence of a Medic Alert bracelet noted accurately ?	**A**	**5**	**0**
6.13	Was the presence of a puffer recorded accurately ?	**A**	**5**	**0**
6.14	Was the arrest noted to be unwitnessed ?	**A**	**10**	**0**
6.15	Was the absence of CPR until the First Aiders' arrival noted ?	**A**	**5**	**0**
6.16	Was the time that CPR was started noted ?	**A**	**5**	**0**
6.17	Was the initial patient position found (ie supine) noted ?	**A**	**5**	**0**
6.18	Was the fact that the patient was rolled over noted ?	**A**	**5**	**0**
6.19	Was the fact that the head and neck were supported during the roll over noted ?	**A**	**5**	**0**
6.20	Was the heart rate after recovery of pulse recorded with the time taken ? *(65 / min, weak regular) - If no time recorded, then no mark.)*	**A**	**5**	**0**
6.21	Were the Respirations after recovery of pulse recorded with the time taken ? *(4 / min, shallow, irregular – ineffective) - If no time recorded, then no mark.)*	**A**	**5**	**0**
6.22	Was the Level of Consciousness recorded after the recovery of pulse ? *(unresponsive)*	**A**	**5**	**0**
6.23	Was a Skin Temperature recorded with time taken ? *(pale, blue, cool) --- (If no time recorded, then no mark.)*	**A**	**5**	**0**
6.24	Was a 2nd heart rate after recovery of pulse recorded with the time taken ? *(110 / min, weak , regular) - If no time recorded, then no mark.)*	**A**	**5**	**0**
6.25	Was a 2nd Level of Consciousness after recovery of pulse recorded with the time taken ? *(unresponsive) - If no time recorded, then no mark -*	**A**	**5**	**0**
6.26	Was a 2nd Skin Temperature recorded with time taken ? *(pale, cool) --- (If no time recorded, then no mark.)*	**A**	**5**	**0**
SUB-TOTAL POINTS AWARDED				
Page 3 – SECONDARY SURVEY (Possible 140)				