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Thursday, August 11, 2016

(Room 9)

14:00 - 16:00 WS #12: Pre Hospital Care Forum

16:30 - 18:30 WS #17: Pre Hospital Care Forum (Repeated)



Case presentations

Tony Smith, Medical Director, St John



St John
Here for Life

Case 1

- You come across the scene of a crash, involving a truck and two cars
- Police are on scene, but no other emergency services
- What are your initial actions?





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Here for Life

Case 1

- What are your initial actions?
 - Take a deep breath and slow down.....
 - Ensure you are safe
 - Introduce yourself to Police (if possible)
 - Assess the scene for the number of patients and the severity of their injuries
 - Task bystanders to provide first aid
 - Phone ambulance Control Centre to update them if an ambulance has not yet arrived on scene



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Case 1

- There is only one injured patient
- Male in his fifties, trapped in driver seat of car, can only be accessed from left side
 - Awake, airway OK, talking
 - Complaining of difficulty breathing with severe pain on right side of chest
 - Feels cool, clammy and is tachycardic
 - No obvious external blood loss
 - Obeying commands and moving all limbs
 - Keeps saying “can’t breathe, can’t breathe”
- Appears to be rapidly getting worse
- What are the possibilities?



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Case 1

- What are the possibilities?
 - Tension pneumothorax
 - Flail chest
 - Haemothorax
 - Haemopneumothorax
 - Large pulmonary contusion
 - Pneumothorax with shock as a result of blood loss from elsewhere, for example abdomen or pelvis
- Ambulance has just arrived
 - Volunteer staff, relatively inexperienced
- What would you do next?



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Case 1

- What would you do next?
 - Brief the ambulance crew, agree who is in charge
 - You need access to the patient
 - Fire Service offer to winch car away from truck
 - Always say yes
- What clinical signs would you look for?



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Case 1

- What clinical signs would you look for?
 - Reduced air entry
 - Distended jugular veins
 - Hyper-resonant percussion note
 - Signs of shock
 - Tracheal deviation (very late sign, not clinically useful)
- How does tension pneumothorax cause shock?



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Case 1

- What clinical signs would you look for?
 - Reduced air entry
 - Distended jugular veins
 - Hyper-resonant percussion note
 - Signs of shock
 - Tracheal deviation (very late sign, not clinically useful)
- How does tension pneumothorax cause shock?
 - Positive pressure in the thorax reduces venous return to the right heart
 - Right ventricle becomes increasingly 'empty'



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Case 1

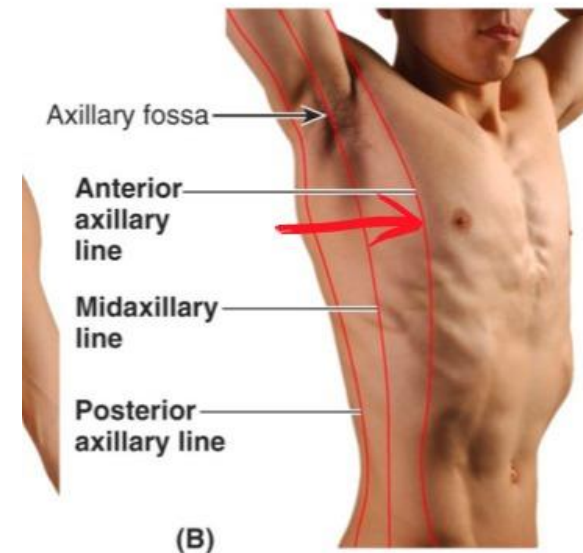
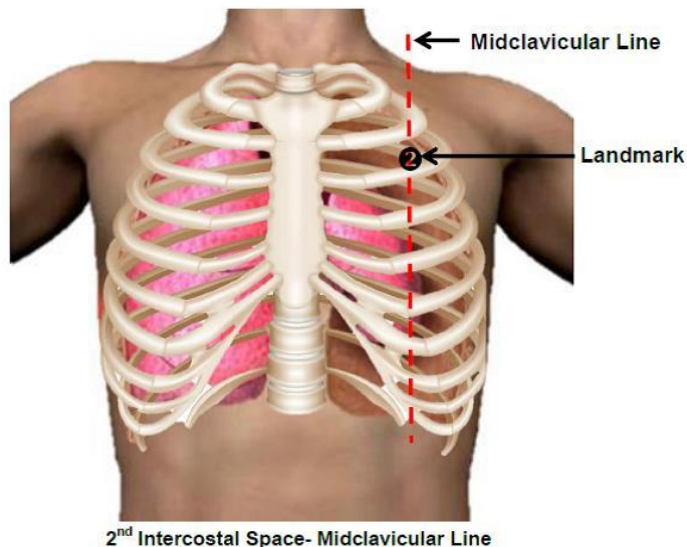
- Clinically you think he has tension pneumothorax
 - Fire service are within a few minutes of getting him out
 - What would you do?



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Case 1

- What would you do?
 - Wait till he is out, ensure everyone briefed on priorities and plan
 - Decompress chest on ambulance stretcher
 - Safest place is 4th intercostal space in mid-axillary line, not traditional site of 2nd intercostal space in mid-clavicular line
- How would you decompress?





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Case 1

- How would you decompress?
 - Could use standard cannula, often not long enough
 - Could use a Turkel needle, carried by Intensive Care Paramedics
 - Could perform an open finger thoracostomy





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Case 1

- Take home messages
 - Tension pneumothorax is rare, but decompression can be life saving
 - Must have shock to have tension pneumothorax
 - Traditional site is not ideal
 - 4th intercostal space in mid-axillary line is safest
 - IV cannula often not long enough
 - Alternative approach is Turkel needle or open finger thoracostomy



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Case 2

- You are called outside your practice where a man has collapsed in his car
 - He is awake and saying “help me, help me”
 - He is very pale and appears short of breath
 - There is a strong smell of diarrhea and there appears to be diarrhea on his seat and on the floor of the car
 - What further information to you want?



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Case 2

- You are called outside your practice where a man has collapsed in his car
 - He is awake and saying “help me, help me”
 - He is very pale and appears short of breath
 - There is a strong smell of diarrhea and there appears to be diarrhea on his seat and on the floor of the car
 - What further information to you want?
- What is your differential diagnosis?



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Case 2

- What is your differential diagnosis?
 - Anaphylaxis
 - Hypovolaemic shock
 - Septic chock
 - Cardiogenic shock
- What would you do?



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Case 2

- What would you do?
 - Get him out of the car, lie him flat, no role for raised legs
 - Ensure an ambulance has been called
 - Administer IM adrenaline, lateral thigh, 0.3-0.5 mg, repeat in 10 minutes if not rapidly improving
 - Gain IV access and administer IV fluid, minimum of one litre, may need 2-3 litres
 - What is the role for steroids and anti-histamines?



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Case 2

- What is the role for steroids and anti-histamines?
 - Virtually none
 - Do not alter course of anaphylaxis
 - Divert attention from important therapies
 - May have a role for symptom relief (for example itch) once anaphylaxis clearly improving
 - Beware promethazine – drops BP and causes sedation, best not administered
- Twenty minutes later (two doses IM adrenaline and 2 litres IV fluid, still not improving
 - What would you do?



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Case 2

- What would you do?
 - Administer IV adrenaline
 - In the absence of cardiac arrest be very cautious with IV adrenaline, particularly bolus administration
- Safest approach:
 - Place 1 mg of adrenaline into a 1 litre bag of fluid
 - Shake well and label
 - Administer as an IV infusion starting at 2 drops per second
 - If boluses required (and not in cardiac arrest) draw up 10 ml (0.01 mg of adrenaline) from this bag and administer
 - This is safe, easy and effective



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Case 2

- Take home messages
 - Anaphylaxis may present without rash (initially)
 - Anaphylaxis may present with shock and diarrhea
 - Always consider anaphylaxis if sudden onset of shock
 - Priority is IM adrenaline , lateral thigh
 - Steroids and anti-histamines have virtually no role
 - Beware promethazine
 - IV adrenaline may be needed, place 1 mg of adrenaline into a 1 litre bag of fluid, safe, easy and effective



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Case 3

- A parent carries a 4 year old child into your medical centre
 - Unconscious
 - Agonal gasping at around 4-6 breaths a minute
- What would you do?



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Case 3

- What would you do?
 - Call for help
 - Start CPR, consider a 30:2 ratio but ratio not important, CPR is
 - Ensure an ambulance has been called
- What is the next priority?



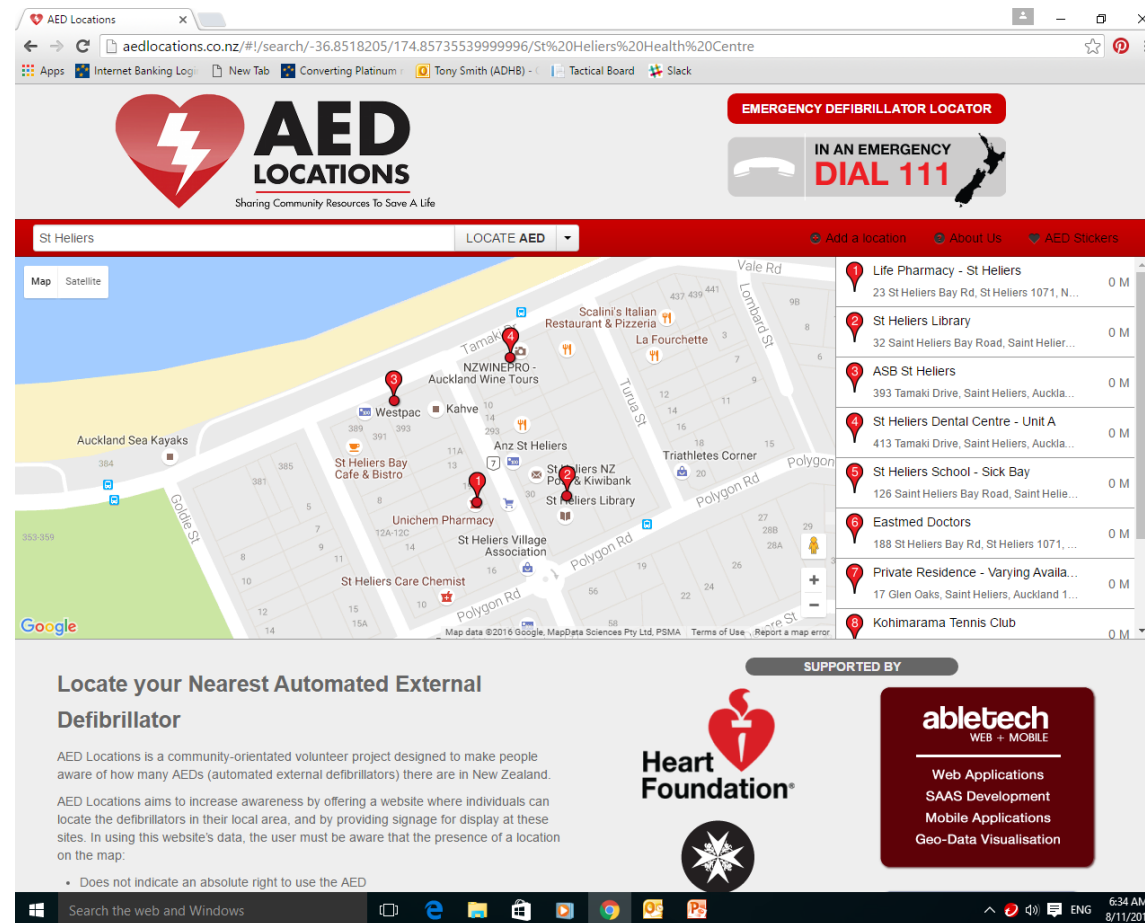
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Case 3

- What is the next priority?
 - Attach a defibrillator
- Does your medical practice have an AED?
- Do you know how to find the nearest AED?

Case 3

- Do you know how to find the nearest AED?
 - AED locations, free app



The screenshot shows the AED Locations website interface. At the top, there's a navigation bar with the AED Locations logo (a red heart with a lightning bolt) and the text "AED LOCATIONS Sharing Community Resources To Save A Life". To the right, there's a red button that says "EMERGENCY DEFIBRILLATOR LOCATOR" and a white button that says "IN AN EMERGENCY DIAL 111". Below the navigation bar, there's a search bar with "St Heliers" entered and a "LOCATE AED" button. To the right of the search bar, there are links for "Add a location", "About Us", and "AED Stickers". The main content area features a map of St Heliers with several AED locations marked with red pins. To the right of the map, there's a list of nearby AED locations with their addresses and distances. At the bottom, there's a section titled "Locate your Nearest Automated External Defibrillator" with a brief description of the project and a "SUPPORTED BY" section featuring logos for the Heart Foundation and Abletech.

EMERGENCY DEFIBRILLATOR LOCATOR

IN AN EMERGENCY DIAL 111

St Heliers LOCATE AED

Map Satellite

Life Pharmacy - St Heliers
23 St Heliers Bay Rd, St Heliers 1071, N... 0 M

St Heliers Library
32 Saint Heliers Bay Road, Saint Helier... 0 M

ASB St Heliers
393 Tamaki Drive, Saint Heliers, Auckla... 0 M

St Heliers Dental Centre - Unit A
413 Tamaki Drive, Saint Heliers, Auckla... 0 M

St Heliers School - Sick Bay
126 Saint Heliers Bay Road, Saint Helle... 0 M

Eastmed Doctors
188 St Heliers Bay Rd, St Heliers 1071, ... 0 M

Private Residence - Varying Avalla...
17 Glen Oaks, Saint Heliers, Auckland 1... 0 M

Kohimarama Tennis Club 0 M

Locate your Nearest Automated External Defibrillator

AED Locations is a community-orientated volunteer project designed to make people aware of how many AEDs (automated external defibrillators) there are in New Zealand.

AED Locations aims to increase awareness by offering a website where individuals can locate the defibrillators in their local area, and by providing signage for display at these sites. In using this website's data, the user must be aware that the presence of a location on the map:

- Does not indicate an absolute right to use the AED

Heart Foundation

abletech
WEB + MOBILE

Web Applications
SAAS Development
Mobile Applications
Geo-Data Visualisation



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Case 3

- An AED is available
 - Adult pads only
 - Child weighs approximately 15 kg
- What would you do?



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Case 3

- What would you do?
 - Attach and use the AED
 - This is safe
 - Much better than delaying defibrillation



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Case 3

- What would you do?
 - Attach and use the AED
 - This is safe
 - Much better than delaying defibrillation
- You attach the AED and the rhythm is VT
 - Following one shock you get ROSC
 - You and your medical centre staff are heroes...
- The diagnosis turns out to be an inherited cardiac channel abnormality
 - Implanted defibrillator
 - Otherwise normal life



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Case 3

- Take home messages
 - When SUDI is excluded, approximately 15% of children in cardiac arrest will be in a shockable rhythm
 - Attaching and using a defibrillator is a priority
 - Your medical centre should have an AED
 - AED locations is a very useful app



Thank you

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