Public Access Defibrillation and Dispatch

LTC (Dr) Ng Yih Yng
Chief Medical Officer
Singapore Civil Defence Force
What causes most cardiac arrests?
Ventricular fibrillation (VF) is a heart rhythm that causes the heart to quiver instead of pumping in an organized fashion... leading to cardiac arrest.
The abnormal rhythm of ventricular fibrillation can ONLY be corrected by a defibrillation shock.
How does Public Access Defibrillation help?

It takes 2-4 minutes for a bystander to use an AED.

It takes 2-3 times as long for EMS to reach a patient for defibrillation.
Immediate treatment is critical

survival decreases by 10% for every minute treatment is delayed.
Are public AED effective?

<table>
<thead>
<tr>
<th>Factors</th>
<th>n (%)</th>
<th>Discharged Alive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Odds Ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bystander CPR</strong></td>
<td>801 (20.3)</td>
<td><strong>2.29</strong></td>
</tr>
<tr>
<td><strong>Public Access Defibrillation</strong></td>
<td>14 (0.36)</td>
<td><strong>11.10</strong></td>
</tr>
<tr>
<td><strong>FRP dispatched</strong></td>
<td>97 (2.46)</td>
<td>4.63</td>
</tr>
<tr>
<td><strong>Ambulance defibrillation</strong></td>
<td>853 (21.6)</td>
<td>6.04</td>
</tr>
<tr>
<td><strong>EMS mechanical CPR</strong></td>
<td>30 (0.76)</td>
<td>2.25</td>
</tr>
<tr>
<td><strong>Hospital mechanical CPR</strong></td>
<td>328 (8.32)</td>
<td>1.22</td>
</tr>
<tr>
<td><strong>Hospital hypothermia therapy</strong></td>
<td>10 (0.25)</td>
<td><strong>28.9</strong></td>
</tr>
</tbody>
</table>
An **AED** is the device that can safely and correctly deliver a **lifesaving shock.**
Are AEDs safe?

• It will only shock a person in ventricular fibrillation
• No serious injury ever reported from Public AED usage
• However, normal AED safety rules still apply
  – Contact with water
  – Metal surfaces
  – Scene danger
Which is safer - Using a Fire Extinguisher or an AED?

4% of people who died from fires were fighting it
35% of people who injured by fires were fighting it

No fatalities or injuries


Will I get sued if the AED wasn’t used right?

• The layers of protection
  – Training
  – Protocols
  – Quality Assurance
  – Quality Improvement
  – Legislation
People expect professionals to help!

Calif. woman dies after nurse refuses to do CPR

By GOSIA WOZNIACKA and TRACIE CONE | Associated Press – Tue, Mar 5, 2013

Shown is the main gate of Glenwood Gardens in Bakersfield, Calif., Monday March 4, 2013, where an elderly woman died after a nurse refused to perform CPR on her last week. The central California retirement home is defending one of its nurses who refused pleas by a 911 operator to perform CPR on an elderly woman, who later died. "Is there anybody that's willing to help this lady and not let her die," dispatcher Tracey Halvorson says on a 911 tape released by the Bakersfield Fire Department aired by several media outlets. (AP Photo/Gosia Wozniacka)
# Integrating AEDs into Dispatch

## Data
- Legislation
- Self-reporting
- Crowd sourcing

## Program
- Registry
- Dispatch Trg
- Standards
- Quality Assurance
- Quality Improvement

## Awareness
- Recognize Cardiac Arrest
- Early Access
- CPR/AED trg
Be on the lookout for the Public Access Defibrillator -

Because I’m worth it!
## Familiarise yourself

<table>
<thead>
<tr>
<th>Heartsine</th>
<th>i-Pad</th>
<th>Philips Onsite</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Turn On</td>
<td>• Open Lid</td>
<td>• Pull Handle</td>
</tr>
<tr>
<td>• Pull Green Tab</td>
<td>• Turn On</td>
<td>• Paste pads</td>
</tr>
<tr>
<td>• Paste pads</td>
<td>• Attach Connector</td>
<td>• Analyse</td>
</tr>
<tr>
<td>• Analyse</td>
<td>• Paste Pads</td>
<td>• Analyse</td>
</tr>
<tr>
<td>• Shock/No shock</td>
<td>• Analyse</td>
<td>• Shock/No shock</td>
</tr>
</tbody>
</table>
Be current with CPR + AED Training to be confident in giving instructions
Chance favours the prepared mind. The more you practice, the luckier you become.
Summary

• Public Access Defibrillation is a tool that dispatchers can use to significantly improve cardiac arrest survival

• Always lookout for the public AED in appropriate places – It’s worth it!

• The more you prepare, the luckier you become!
Questions?

• ng_yih_yng@scdf.gov.sg
• ng.yih.yng@sgh.com.sg