**Example of a main success scenario**

// Victim is suspected to be suffering a cardiac Arrest.
// Responder retrieves the AED and opens the lid.

- Responder turns the power on
- AED initiates a self test
    - Battery Capacity good test: TRUE
    - Defibrillator cable connection test: TRUE
    - ECG signal acquisition test: TRUE
    - Defibrillation/Circuitry Charge and discharge at 200J test: TRUE
    - Microprocessor functionality test: TRUE
    - CPR Monitoring and compression depth test: TRUE
    - Audio Prompt test: TRUE
    - Voice Prompt and LCD display “UNIT OK”
    - Green check displayed on status indicator window
- Device prompts Responder to check on victim
    - Voice Prompt and LCD display “CHECK RESPONSIVENESS”
    - Is victim okay: FALSE
- Device prompts Responder to call for Help
    - Voice Prompt and LCD display “CALL FOR HELP”
- Device prompts Responder to attach pads
    - Voice Prompt and LCD display “ATTACH DEFIB PADS TO PATIENT’S BARE CHEST.”
    - Responder selects type of pad (ex. CPR-D-Padz)
    - Responder attaches pad to victim’s bare chest
        - Is making good contact: TRUE
    - Voice Prompt and LCD display “ADULT PADS”
- Voice Prompt and LCD display “DON’T TOUCH PATIENT, ANALYZING“
    - Wait arbitrary amount of time for heart analysis
        - Needs shock: FALSE
        - Voice Prompt and LCD display: “NO SHOCK ADVISED”
- Device prompts Responder to being CPR
    - Voice Prompt and LCD display “START CPR”
    - Responder selects Compression Depth and Rate and does CPR
        - Compression Depth good: TRUE
        - Compression Rate good: TRUE
    - 2 minutes of Compressions later/ Victim breathing normalized
        - Voice Prompt and LCD display “STOP CPR”

// Responder Monitors victim until help arrives

## Faulty Electrode Connection Scenario

// Victim is suspected to be suffering a cardiac Arrest.
// Responder retrieves the AED and opens the lid.

- Responder turns the power on
- AED initiates a self test
    - Battery Capacity good test: TRUE
    - **Defibrillator cable connection test: FALSE**
    - **Red X displayed on status indicator window**
- **Voice Prompt and LCD display "PLUG IN CABLE"**
- **Device waits for the responder to check and replug the electrode cable.**
- **After a set amount of time, the AED reinitiates a self test.**
    - Battery Capacity good test: TRUE
    - Defibrillator cable connection test: TRUE
    - ECG signal acquisition test: TRUE
    - Defibrillation/Circuitry Charge and discharge at 200J test: TRUE
    - Microprocessor functionality test: TRUE
    - CPR Monitoring and compression depth test: TRUE
    - Audio Prompt test: TRUE
    - Voice Prompt and LCD display "UNIT OK"
    - Green check displayed on status indicator window
- Device prompts Responder to check on victim
    - Voice Prompt and LCD display "CHECK RESPONSIVENESS"
    - Is victim okay: FALSE
- Device prompts Responder to call for Help
    - Voice Prompt and LCD display "CALL FOR HELP"
- Device prompts Responder to attach pads
    - Voice Prompt and LCD display "ATTACH DEFIB PADS TO PATIENT'S BARE CHEST."
    - Responder selects type of pad (ex. CPR-D-Padz)
    - Responder attaches pad to victim's bare chest
        - Is making good contact: TRUE
    - Voice Prompt and LCD display "ADULT PADS"
- Voice Prompt and LCD display "DON'T TOUCH PATIENT, ANALYZING"
    - Wait arbitrary amount of time for heart analysis
        - Needs shock: FALSE
        - Voice Prompt and LCD display: "NO SHOCK ADVISED"
- Device prompts Responder to being CPR
    - Voice Prompt and LCD display "START CPR"
    - Responder selects Compression Depth and Rate and does CPR
        - Compression Depth good: TRUE
        - Compression Rate good: TRUE
    - 2 minutes of Compressions later/ Victim breathing normalized
        - Voice Prompt and LCD display "STOP CPR"

// Responder Monitors victim until help arrives

**Electrode Misplacement Scenario:**

// Victim is suspected to be suffering a cardiac Arrest.
// Responder retrieves the AED and opens the lid.

- Responder turns the power on
- AED initiates a self test
    - Battery Capacity good test: TRUE
    - Defibrillator cable connection test: TRUE
    - ECG signal acquisition test: TRUE
    - Defibrillation/Circuitry Charge and discharge at 200J test: TRUE
    - Microprocessor functionality test: TRUE
    - CPR Monitoring and compression depth test: TRUE
    - Audio Prompt test: TRUE
    - Voice Prompt and LCD display “UNIT OK”
    - Green check displayed on status indicator window
- Device prompts Responder to check on victim
    - Voice Prompt and LCD display “CHECK RESPONSIVENESS”
    - Is victim okay: FALSE
- Device prompts Responder to call for Help
    - Voice Prompt and LCD display “CALL FOR HELP”
- Device prompts Responder to attach pads
    - Voice Prompt and LCD display “ATTACH DEFIB PADS TO PATIENT’S BARE CHEST.”
    - Responder selects type of pad (ex. CPR-D-Padz)
    - Responder attaches pad to victim’s bare chest
        - **Is making good contact: FALSE**
        - **Voice Prompt and LCD display “CHECK ELECTRODE PADS”**
    - **Responder re-attaches pads until good**
        - **Is making good contact: TRUE**
    - Voice Prompt and LCD display “ADULT PADS”
- Voice Prompt and LCD display “DON’T TOUCH PATIENT, ANALYZING“
    - Wait arbitrary amount of time for heart analysis
        - Needs shock: FALSE
        - Voice Prompt and LCD display: “NO SHOCK ADVISED”
- Device prompts Responder to being CPR
    - Voice Prompt and LCD display “START CPR”
    - Responder selects Compression Depth and Rate and does CPR
        - Compression Depth good: TRUE
        - Compression Rate good: TRUE
    - 2 minutes of Compressions later/ Victim breathing normalized
        - Voice Prompt and LCD display “STOP CPR”

// Responder Monitors victim until help arrives

## Low Battery Warning:

// Victim is suspected to be suffering a cardiac Arrest.
// Responder retrieves the AED and opens the lid.

- Responder turns the power on
- AED initiates a self test
    - **Battery Capacity good test: FALSE**
    - **Red X displayed on status indicator window**
- **Device emits a beeping noise once every minute**
- **Device prompts responder to change the battery for fresh power**
    - **Voice Prompt and LCD display "CHANGE BATTERIES"**
    - **Responder replaces batteries**
    - **Voice Prompt and LCD display "IF NEW BATTERIES, PRESS BUTTON."**
    - **Within 15 seconds of finishing replacing batteries, responder presses battery reset button**
- **the AED reinitiates a self test.**
    - Battery Capacity good test: TRUE
    - Defibrillator cable connection test: TRUE
    - ECG signal acquisition test: TRUE
    - Defibrillation/Circuitry Charge and discharge at 200J test: TRUE
    - Microprocessor functionality test: TRUE
    - CPR Monitoring and compression depth test: TRUE
    - Audio Prompt test: TRUE
    - Voice Prompt and LCD display "UNIT OK"
    - Green check displayed on status indicator window
- Device prompts Responder to check on victim
    - Voice Prompt and LCD display "CHECK RESPONSIVENESS"
    - Is victim okay: FALSE
- Device prompts Responder to call for Help
    - Voice Prompt and LCD display "CALL FOR HELP"
- Device prompts Responder to attach pads
    - Voice Prompt and LCD display "ATTACH DEFIB PADS TO PATIENT'S BARE CHEST."
    - Responder selects type of pad (ex. CPR-D-Padz)
    - Responder attaches pad to victim's bare chest
        - Is making good contact: TRUE
    - Voice Prompt and LCD display "ADULT PADS"
- Voice Prompt and LCD display "DON'T TOUCH PATIENT, ANALYZING"
    - Wait arbitrary amount of time for heart analysis
        - Needs shock: FALSE
        - Voice Prompt and LCD display: "NO SHOCK ADVISED"
- Device prompts Responder to being CPR
    - Voice Prompt and LCD display "START CPR"
    - Responder selects Compression Depth and Rate and does CPR
        - Compression Depth good: TRUE
        - Compression Rate good: TRUE
    - 2 minutes of Compressions later/ Victim breathing normalized
        - Voice Prompt and LCD display "STOP CPR"

// Responder Monitors victim until help arrives