Medical device donation guideline for Ebola outbreak
4 September 2014

Requirements

A. Appropriate, robust, durable/disposable medical equipment

1) High quality device or equipment:
   - Having regulatory clearance from national or regional regulatory authorities
   - Capable of operating with limited-resource for electricity, water and compressed gas
   - Having minimum six-month shelf life

2) User manuals, service (maintenance) manuals, disposal instructions and software are in health worker’s language:
   - in French for Guinea, Democratic Republic of Congo
   - in English for Liberia, Nigeria and Sierra Leone

3) The following supplies should be available for a minimum of one year of operation:
   - Accessories,
   - Consumables,
   - Reagents (operation and cleaning),
   - Maintenance materials (spare parts and tools),
   - Test and calibration equipment, if possible, 5 per country.

B. Where there is lack of running water or water of varying quality the following considerations should be made:

   - Device be disposable,
   - Surfaces can be cleaned/sterilized with appropriate disinfectant,
   - Barriers can be added between patient and device, depending on the device,
   - Sterilizing procedure and consumables are shipped with device.

C. Where there is limited or unstable power supply the following considerations should be made:

1) Medical devices or equipment may require:
   - Battery-operated devices,
   - Extra batteries or re-chargeable batteries,
   - Backup generators,
   - Current stabilizer.

2) Sources of energy may require in countries:
   - Uninterruptable power supply to protect from blackouts and unstable power supply,
   - Multiple extension connections with fuse spike detection
   - Correct plug adaptor,
   - Transformer, etc.

<table>
<thead>
<tr>
<th>Country</th>
<th>Voltage</th>
<th>Frequency</th>
<th>Plug types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democratic Republic of Congo</td>
<td>220 V</td>
<td>50 Hz</td>
<td>C or D or E</td>
</tr>
<tr>
<td>Guinea</td>
<td>220 V</td>
<td>50 Hz</td>
<td>C or F or K</td>
</tr>
<tr>
<td>Liberia</td>
<td>120 V, 220 V</td>
<td>50 or 60 Hz</td>
<td>A or B or C or E or F</td>
</tr>
<tr>
<td>Nigeria</td>
<td>230 V</td>
<td>50 Hz</td>
<td>D or G</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>230 V</td>
<td>50 Hz</td>
<td>D or G</td>
</tr>
</tbody>
</table>

Source: [http://www.iec.ch/worldplugs/list_bylocation.htm](http://www.iec.ch/worldplugs/list_bylocation.htm)

3) Used with atmospheric or compressed gas supply, or accessory equipment is included to compress gas
4) Good ease of use and ease of maintenance