

**Title:** Human factors evaluation of HeartMate 3 left ventricular assist device peripherals: An eye tracking supported simulation study.


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**Supplementary File 1:** Provided components, patient introduction and initial setting per simulated scenario. (HM3: HeartMate 3, AC: alternating current)

Simulated scenario	Provided components	Subject Introduction	Initial Setting
Battery exchange without alarm	<ul style="list-style-type: none"><li>• Controller + 2 connected batteries</li><li>• Driveline to pump (mock loop)</li><li>• 2 spare batteries</li></ul>	“In front of you, you will find the controller including two batteries of a medical system, which is connected to the internal heart pump by means of the driveline, as well as two spare batteries. Please now exchange both batteries of the system.”	 A photograph showing the HeartMate 3 controller and its associated components. The controller is a rectangular device with a small screen and buttons. It is connected to two batteries via a driveline. Two spare batteries are also visible next to the controller. The entire setup is placed on a green surface.

Simulated scenario	Provided components	Subject Introduction	Initial Setting
AC power connection and reconnection of batteries	<ul style="list-style-type: none"> <li>• Controller + 2 connected batteries</li> <li>• Driveline to pump (mock loop)</li> <li>• HM3 Mobile Power Unit</li> <li>• AC power cable</li> </ul>	<p>“In front of you, you will again find the medical device to be tested. In addition, a power socket can be found here (...). Connect the controller to the power supply. Subsequently, please disconnect the system from AC power supply and restore the original situation.”</p>	
Battery exchange as reaction to alarm	<ul style="list-style-type: none"> <li>• Controller + 2 connected batteries (low)</li> <li>• Driveline to pump (mock loop)</li> <li>• 2 spare batteries</li> </ul>	<p>“In front of you, you will again find the medical device to be tested. You will see an error message on the display. In addition, you will perceive an acoustic alarm. Please rectify the problem.”</p>	
Driveline dis- and reconnection	<ul style="list-style-type: none"> <li>• Controller + 2 connected batteries</li> <li>• Driveline to pump (mock loop)</li> </ul>	<p>“In front of you, you will again find the medical device to be tested with a connection of the internal heart pump to the external control unit. Please disconnect the control unit from the heart pump. This will trigger an alarm. Re-establish the connection afterwards.”</p>	

Simulated scenario	Provided components	Subject Introduction	Initial Setting
Emergency controller exchange as reaction to alarm	<ul style="list-style-type: none"> <li>• Controller + 2 connected batteries</li> <li>• Driveline to pump (mock loop)</li> <li>• Spare controller</li> </ul>	<p>“In front of you, you will again find the medical device to be tested. There is now a problem with the controller. Please replace it with a new controller.”</p>	
Battery exchange in dim light	<ul style="list-style-type: none"> <li>• Controller + 2 connected batteries</li> <li>• Driveline to pump (mock loop)</li> <li>• 2 spare batteries</li> </ul>	<p>“The room is now darkened. Please exchange both batteries of the system now.”</p>	
Battery exchange within consolidated bag	<ul style="list-style-type: none"> <li>• Controller + 2 connected batteries (empty)</li> <li>• Driveline to pump (sticked to the subject's abdomen)</li> <li>• 2 spare batteries (empty)</li> </ul>	<p>“During the next scenario, the components of the device are in a consolidated bag. We will put this consolidated bag on together. Please exchange both batteries while the controller remains in the bag provided.”</p>	