



Cornell University

## **CORNELL HEALTHCARE COMPUTER CART ERGONOMIC CHECKLIST:**

### **ADMINISTRATION INSTRUCTIONS**

#### **Background**

The use of Computer on Wheels (COWs) and Workstations on Wheels (WOWs) powered carts in hospitals and other healthcare settings is becoming more widespread. This checklist gives some guidance on ergonomic issues that are important considerations for a decision maker who is selecting the best computer cart for their needs. The checklist is not a list of features, but rather a list of items that affect the ease of use, safety and effectiveness of a cart. All dimensions are based on the latest anthropometric data for US adults. The checklist focuses on powered computer carts rather than medication carts. It can be used to evaluate a single cart or to compare multiple cart designs.

#### **Scoring**

The checklist is organized into 5 sections: Cart Maneuvering; Worksurfaces/Data input; Screen/Document Reading; Storage/Accessories/Power; and Hygiene. Each section has a number of items with a binary response (Yes/No) about whether the cart satisfies the item or not.

If an item is not relevant it can be omitted and the scoring can be adjusted accordingly. If all items are relevant then the total number of 'YES' values can be tallied at the end of each of the 5 sections and an overall total score summed at the end of the whole checklist. The maximum score possible is '35' and the higher the score the better the ergonomic design of the cart.

Any questions or comments on this checklist can be sent to Professor Alan Hedge (ah29@cornell.edu).

<b>CORNELL HEALTHCARE COMPUTER CART ERGONOMIC CHECKLIST</b>		<b>YES</b>	<b>NO</b>
<b>CART MANEUVERING</b>			
1	Does the cart have comfortable fore/aft grips for easy pushing/pulling?		
2	Can the cart handles be adjusted to a comfortable height?		
3	Is it easy to push/pull the cart with minimal force?		
4	Is it easy to steer and maneuver the cart whether being pushed or pulled?		
5	Is the cart base narrow enough to maneuver in tight spaces, such as around a hospital bed?		
<b>WORKSURFACES/DATA INPUT</b>			
6	Does the cart easily support the desired computer unit (desktop, laptop, thin client etc.)		
7	Does the cart allow the worksurface to easily be raised to at least 48" from the floor?		
8	Does the cart provide an adequate, stable worksurface platform for writing/medication preparation?		
9	Does the cart have a height adjustable, negative tilt keyboard platform (0 to -15 degrees)?		
10	Does the cart have an adjustable mouse platform?		
11	Does the cart provide a means of stowing the mouse?		
12	Does the cart allow the keyboard/mouse platform to pivot for use in confined spaces?		
13	For standing use, can the keyboard platform easily be raised to 48" from the floor?		
14	For sitting use, can the keyboard platform easily be lowered to 25" from the floor?		
15	Does the cart provide a stable platform for keying and mousing?		
<b>SCREEN/DOCUMENT READING</b>			
16	Does the cart allow independent height adjustment of a computer screen?		
17	For standing use, can the top of a 17" LCD screen be raised to 71" from the floor?		
18	For sitting use, can the bottom of a 17" LCD screen be lowered to 32" from the floor?		
19	Can the user swivel and tilt the computer screen to a comfortable viewing position?		
20	Does the cart provide stable support for the desired size and number of computer screens?		
<b>STORAGE/ACCESSORIES/POWER</b>			
21	Does the cart provide sufficient convenient storage for task requirements?		
22	Does the cart accommodate all of the required accessories for task requirements?		
23	Does the cart provide appropriate security measures to prevent equipment from theft?		
24	Does the cart provide an easily readable display of battery power?		
25	Does the cart provide visual and audible warnings of an impending low power situation?		
26	Does the cart have a battery that can be quickly and easily changed?		
27	Is the battery life adequate for the task demands?		
28	Is it easy to reach the power plug for recharging the battery?		
29	Does the battery recharge quickly enough?		
30	Does the cart provide the required power outlets and electrical characteristics?		
<b>HYGIENE</b>			
31	Is the cart made from materials that are easy to clean and sterilize?		
32	Are cart surfaces made from materials that will not chip or crack?		
33	Are the cart surface materials comfortable to touch (not too cold or hot)		
34	Are the edges rounded or padded and free from sharp edges?		
35	Does the cart cool the battery without a fan that can blow contaminants around?		
<b>TOTAL SCORE</b>			