Cornell University

CORNELL COMPUTER WORKSTATION ON WHEELS ERGONOMICS CHECKLIST:

ADMINISTRATION INSTRUCTIONS

Background

The use of workstations on wheels (WOWs) computer carts in hospitals is widespread. This checklist gives some guidance on ergonomic issues that are important considerations for a decision maker who is selecting the best 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. The checklist can be used to evaluate a single cart or to compare multiple cart designs.

Scoring

The checklist is organized into 6 sections: Cart Maneuvering; Data input; Screen/Document Reading; Storage/Accessories/Security; Hygiene; and Power. Each section has a number of items with a binary response so that ask for a judgment about whether the cart satisfies the item or not. If you wish to use graded scoring (e.g. how well a criterion is met with a score out of say 10 points) then you can also do that and total the points at the end of the checklist.

The push/pull weight value is that which will not cause any injury risk for 90% of women according to the Liberty Mutual Tables.

The minimum and maximum height values are those for the 5^{th} percentile woman to the 95^{th} percentile man from the latest anthropometric data for US adults.

If an item is not relevant it can be omitted. The total number of 'YES' values (or the total score if you choose to use a graded response) can be tallied at the end of each of the 6 sections as well as at the end of the whole checklist. For binary YES/NO responses the maximum score possible is '35' and the higher the score the better the ergonomic design of the cart.

CORNELL WORKSTATION ON WHEELS ERGONOMICS CHECKLIST

	CART MANEUVERING /ADJUSTMENT	YES	NO
1	Can the cart be easily pushed/pulled at a comfortable height?		
2	Can the cart handles/worksurfaces 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?		
6	Is it easy to understand the cart adjustments		
7	Is it easy to use the cart adjustments		
	WORKSURFACES/DATA INPUT		
8	Does the cart easily support the desired computer unit (desktop, laptop, thin client etc.)		
9	Can the worksurface/keyboard/mouse **easily** be adjusted to a comfortable height for a seated 5th%ile woman (elbow height of 23" from the floor) to a standing 95th %ile man (elbow height of 47" from the floor)?		
10	Can the cart automatically adjust to the user's size?		
11	Does the cart provide an adequate area, stable worksurface /keyboard/mouse platform for writing/typing/medication preparation?		
12	Does the cart allow for a neutral hand/wrist/forearm posture when typing and mousing?		
13	Does the cart provide a means of securing/stowing the mouse?		
14	Does the cart allow use of the keyboard/mouse platform in confined spaces?		
	SCREEN/DOCUMENT READING		
15	Does the cart allow independent height adjustment of a computer screen?		
16	Can the screen be adjusted to a comfortable viewing height for a seated 5th%ile woman (37" eye height) to a standing 95th %ile man (70" eye height)?		
17	Can the cart provide stable support for the desired size computer screen?		
18	Does the cart provide stable support for the desired number of computer screens?		
	STORAGE/ACCESSORIES/POWER		
19	Does the cart provide sufficient convenient storage for task requirements?		
20	Does the cart accommodate all of the required accessories for task requirements?		
21	Does the cart provide appropriate security measures to prevent equipment from theft?		
22	Does the cart provide an easily readable display of battery power?		
23	Does the cart provide visual and audible warnings of an impending low power situation?		
24	Does the cart have a battery that can be quickly and easily changed?		
25	Is the battery life adequate for the task demands?		
26	Is it easy to reach the power plug for recharging the battery?		
27	Does the battery recharge quickly enough?		
28	Does the cart provide the required power outlets and electrical characteristics?		
	HYGIENE		
29	Is the cart made from materials that are easy to clean and sterilize?		
30	Are cart surfaces made from materials that will not chip or crack?		
31	Are the cart surface materials comfortable to touch (not too cold or hot)?		
32	Are the edges rounded or padded?		
33	Does the cart cool the battery without a fan that can blow contaminants around?		
34	Is the cart free from potential pinch points?		
35	Are cables on the cart covered/hidden?		
	TOTAL "YES" SCORE		

Professor Alan Hedge, Cornell University, Dept. Design & Environmental Analysis, September 2014