



BUYERS GUIDE:

How to Select the Best Medical Cart for Your Clinic

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HOW TO SELECT THE BEST MEDICAL CART FOR YOUR CLINIC

Medical carts have become an invaluable tool for any hospital, clinic, or medical facility. They allow for nurses, staff and administrators to perform their duties in a streamlined, efficient, and stress-free manner. This in turn improves patient care. Medical carts have proven to reduce recordkeeping errors by allowing for real-time data entry. They have also proven to promote better patient care by allowing for more time to be spent on patient care.

There are hundreds of carts in the market to choose from, in varying shapes and sizes. The greatest assets of any medical cart are its ergonomics mobility, quality of steering, power supply, and the ability to customize its uses. It should be customized for the specific needs of the workplace. Therefore, when selecting which medical cart is best for your practice, hospital, or clinic, it is important to understand the many advantages, specifications, and abilities of each. Only then can you make an informed and optimized selection that's tailor-made for your practice.

This guide-book, will help you look at vital factors to consider when selecting the best computer cart for your environment. Choosing the right cart will boost the productivity of your practice, the happiness of your staff and most importantly, deliver better care to your patients.

MOBILITY AND ERGONOMICS

Caregivers are at an increased risk for injury due to IT products that are not positioned for proper ergonomic health. Poor workstation design that requires repetitive, awkward postures has been identified as a significant risk factor for Musculoskeletal Disorders. The Occupational Safety and Health Administration (OSHA) details a general standard for ergonomic solutions in the workplace. These make day to day operations safe, comfortable and productive. To help navigate the selection process, below are ergonomic recommendations to make informed purchasing decisions.

Height Adjustment

Medical workspace stations should allow for quick and easy adjustments. Adjustments should be possible without the exertion of extra strain to lift or lower.

Manual vs. Motorized

Motorized solutions offer a true ergonomic design. They promote virtually no effort, requiring only one step with the push of a button.

When considering a manual height adjustment solution, it is best to test the ease and effort required to lift and lower the workstation.

In both instances, the most considerable factor is that the carts be height adjustable based on anthropometric data that indicates the correct elbow and eye height. This enables a neutral typing and viewing position.



Workspace

An adequate workspace is essential to complete the tasks needed on the cart. For example, if medication, bloodwork or items will be collected or organized, there needs to be enough space to complete these tasks.

Keyboard Adjustment

A keyboard tray with a negative tilt encourages a neutral wrist posture and allows for an ergonomic workstation.

Lighting

A workspace with added lights helps staff be prepared for dim environments. This is especially important during overnight rounds, so as to not disturb patients while resting. Consider a light for the workspace surface as well as the keyboard tray.

Cart Handles and Maneuverability

The main power of transportation for computer carts will be that of the caregivers and providers pushing it. The power and energy needed to maneuver a cart for long hours can have a musculoskeletal effect. It is essential to have convenient handles from all sides for easy maneuverability.

Wheels

There are various wheel options depending on the cart and the supplier. In healthcare environments, castor wheels are ideal. They directly affect the amount of force that is required to maneuver a cart. A large caster wheel in diameter will be able to maneuver over irregular surface and debris easily. Another benefit of large caster wheels is that it requires less exertion and force to maintain control once it is set in motion.



Handles on One Side vs. Both Sides

Medical carts with handles on one side can make the cart less maneuverable when in rough terrain as there are not sturdy handles or areas to grab. Carts with handles on both the front and back are optimal for environments with various terrains.

Cable Management

Spiral and coiled-like cables allow for cleaner environments. They reduce the potential of loose wiring and the need to wrap the cord around a holder before the cart is in motion. It allows for a safer environment where the loose wires do not linger for others to trip over or to get easily caught on other objects.



Weight

Pairing with the importance of caster wheels, the weight of medical cart is a vital factor to consider when purchasing.

Lighter vs. Heavier

Lighter carts have the perception of less weight for better mobility. However, this is not always the case. Lighter carts may have freeform wheels that do not handle various work surfaces and interferences well. Thus, causing issues with control and mobility. Heavier carts with the appropriate caster wheels allow for more control when maneuvering.

Monitor Mobility

A monitor that can tilt and pan allows for more comfortability. Additionally, it removes potential discomfort in the neck. Depending on the cart's function, the flexibility of the monitor should allow staff to move it in a variety of ways. It should allow the staff to share information on the screen to the patient and be able to face the patient while viewing content on the screen.

Tilt

Tilt flexibility can range from as low as 24 degrees to 180 degrees. This accommodates quick changes for glares and height adjustments suitable for operating room environments for a flat view from above.

Pan

Pan flexibility can range from as low as 25 degrees to 180 degrees. This allows staff to show a screen without having to maneuver the cart around for others to view.

CUSTOMIZATIONS

One cart model does not fit all. Every healthcare environment differs on how computer carts will be used and tailored to their environment. The ability to customize a cart specific to the needs of the environment is important in order to be efficient. The best medical computer carts are ones that can be customized to the precise needs of your clinic.

Storage

Whether through baskets or boxes, it is necessary to take inventory on what items and medical devices will be traveling with this cart daily. This allows you to anticipate the storage needs of your cart. Depending on the needs and content that will be stored, you will need to confirm that there will be locking mechanisms.

Essential Storage

The less items that need to be stored on top of the workspace area, more space for your staff to work, and make it less likely for loose miscellaneous items to fall during transport. Consider the essential items such as hand disinfectant, computer mouse, and glove boxes.

Disinfectant Holder



Mouse Holder



Glovebox Holder



Medication Boxes

Customized carts with mobile medication stations allow for more efficient patient care. It is crucial to understand the safety mechanisms and dynamics of the medication storage boxes. Below are items to consider when selecting medication boxes.

Medication Safety

Medication boxes with locking mechanism should be able to lock automatically if left open after a certain amount of time. Another feature essential to patient safety and reduction of medication errors, is a mechanism that only opens when a patient wristband is scanned.

Waste and Disposal of Hazardous Material

Based on the main function of use, it is vital to consider the necessary disposal bins needed to ensure patient and provider safety.

Telehealth Camera

Medical carts designed for telehealth environments demand adequate camera quality and mobility. Whether the vendor offers a complete solution or you are selecting one to add on, consider the following items when selecting a camera:



Image Quality

In telehealth applications, it is imperative to have exceptional video quality from the patient and provider side. Telehealth cameras with 4K image quality or Ultra High Definition are ideal.

Tilt & Pan

To expand the field of view, the ability to pan and tilt the camera up to 170 degrees is a good standard.

Zoom

Based on needs and applications, especially for telehealth, the ability to zoom up to 5x without distortion and the ability to see details is pivotal.

Additional Accessories

There are many available accessories to consider in order to customize each cart to its application, driving more efficiency.

- Printers
- Barcode scanners
- Extender plates
- Mouse holders
- CPU Holders
- Utility Shelves
- IV Fusion Kits
- Power strips
- Camera shelves
- Dual monitor bar

Sanitary Accommodations

As with all aspects of healthcare, sanitation is especially vital. A mobile computer cart will travel from patient to patient. It is crucial that the cart can accommodate sanitation fluids, wipes, and gloves. However these should not interfere with the workspace or shift around when the cart is in motion.

BATTERY CAPABILITY

A common concern about medical computer carts is the battery life. This is especially concerning for long shifts and carts in constant use. Some carts require an energy source as you travel from patient to patient. This is due to the cart limitations or declining battery life. Other carts have a battery life that doesn't last long enough for one full shift without requiring charging. To fully support healthcare professionals throughout their shifts in clinical settings, a mobile technology cart should have a clearly visible battery level indicator.

Battery Options

Medical cart suppliers offer a variety of battery options. The main batteries you will find in the market are sealed lead acid (SLA) and lithium iron phosphate (LiFePO4). Both options offer advantages financially and through performance.

Battery Notifications

An efficient cart will have an easy to view battery life notification on the workstation. This allows your staff to easily determine if the cart needs to be charged.

Remote monitoring

Select carts offer remote monitoring software. This allows clinical and IT staff to see not only the current battery status but also their overall battery life performance. Remote monitoring software helps better manage battery issues and maintenance and when it is time to replace the battery.

SLA VS LiFePO4

| SLA | | LiFePO4 |
|----------------|-------------------------|----------------------------------|
| 300-700 cycles | Life cycle range | 1000-3000 cycles |
| Low | Battery cost | Less expensive over life of cart |
| 3-6 hours | Charge Time | 2-3 hours |
| 1-2 years | Battery Life | 5-10 years |

Hotswapple

A hotswapple battery has the ability to change the battery on the medical cart without powering down the computer and machine itself. Clinical staff may be limited by a carts charging performance. Finding a plug or power source during a busy shift can be both inconvenient and cause inefficient patient care. Hotswapple batteries solve those inefficiencies by minimizing downtime. They allow for a quick change in battery while helping to maintain efficiency and flow. While this technology is a larger investment, it can save time and costs in the long run.

MEDICAL COMPLIANCE

Near-Patient use and Medical Device Integrations

For carts that are used for use near a patient use or connected to medical devices, they must meet EN/IEC-60601-1 compliances; A set of technical safety standards for the performance of medical electrical equipment. This is to ensure patient safety from electromagnetic interference from various devices.

Sanitation

Due to the nature of how the cart will be used for patient care in healthcare environments, it is critical to have infection control measures. You need a cart that can withstand cleaning chemicals. This extends to the monitor and accessories such as the mouse and keyboard. Many medical computing suppliers offer fanless computers and displays. This reduces dust build up and allows for easier cleaning. Furthermore, it provides cart components that won't breakdown with standard cleaning chemicals.

WARRANTY & TECHNICAL SUPPORT

Warranty

The average basic warranty ranges between 2-5 years depending on the supplier. It is important to understand the warranty of the hardware and the warranty provisions on the battery; these may have separate warranty lengths and factors. Extended warranty options also vary depending on the buyer and the environment the cart will be used in.

Technical Support

The technical support available from each supplier varies. Before your purchase it is imperative to understand the details of the technical support that comes with your cart. Many offer tier 1 and tier 2 services at an additional cost. Some suppliers offer free technical support and consultations. It is important to understand the different levels of support and decide which one is right for your environment.

SELECTING YOUR MEDICAL CART: A FINAL OVERVIEW

Selecting a medical cart for your work environment is an important task. It should be done with thoroughness and careful thought. It is imperative to consider your staff - those who will be using it daily. Consider whether the cart you choose will make their jobs more efficient or more difficult. Will your cart require them to do extensive cleaning and keep them idle near a charging plug? Or, will your cart give them a workable, efficient, mobile workstation?

The most important factor to consider when choosing a medical cart is patient care. Everything we do in healthcare should be centered on improving the quality and efficiency of patient care. Choosing a medical cart is no different. A well designed medical cart can be an invaluable tool for your hospital, clinic or practice. By doing your research on the various options, examining your individual environmental needs, and choosing wisely, you can boost the morale and efficiency of your workplace while improving the quality of care your patients receive.

ABOUT ADVANTECH

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Medical Solutions

Medical Carts

Medical Cart Checklist

