Health problem addressed

These systems are used for diagnosis and prescription of medical treatment for patients at remote locations, for remote clinical consultations between medical professionals, for education and training of medical staff, and for administrative/business functions. Telemedicine can be as simple as a telephone conversation between personnel or a fax transmission, or as complex as a real-time interactive video examination of a patient conducted by physicians separated by hundreds of miles.

Product description

Components of a telemedicine videoconferencing system vary, depending on the configuration chosen by the buyer. In general, system components include a codec, viewing monitor(s), camera(s), control/user interaction devices (e.g., mouse, keyboard,) input devices (e.g., document scanner, medical scopes), and output and storage devices (e.g., printers, CD-ROM drives). Most suppliers offer different configurations customized to the buyer's needs.

Principles of operation

Telemedicine videoconferencing uses video and telecommunications technology to transmit medical information (audio, video, and graphics) between two or more sites.

Operating steps

Patient examinations are conducted using instruments (e.g., stethoscopes, ophthalmoscopes) and examining cameras connected to the telemedicine system, allowing a physician at a remote site real-time access to the patient and real-time interaction with the examining physician, physician assistant, or nurse. A technician or nurse typically operates the instruments with the patient in an examination room. Images and data are then transmitted to the remote physician for viewing and analysis, and interacting with the patient.

Reported problems

The telemedicine system should have some form of security to avoid problems with data confidentiality. Electric fluctuations can damage computer components, impair system performance, disrupt program operation, and destroy data. Preventive measures include installing an online uninterruptible power supply. A dedicated power line isolated for the central processing unit may be useful to reduce signal noise. Copying disks at regular intervals protects stored information.

Use and maintenance

User(s): Physicians, medical professionals, administrators, students
Maintenance: Technicians; IT staff; biomedical or clinical engineer
Training: Initial training by manufacturer and manuals

Environment of use

Settings of use: Hospitals; private practices; clinics; schools
Requirements: Stable power source

Product specifications

Approx. dimensions (mm): NA
Approx. weight (kg): NA
Consumables: NA
Price range (USD): 1,495 - 177,000
Typical product life time (years): 5 to 7
Shelf life (consumables): NA

Types and variations

Mobile (rollabout); group (room); desktop