



Cruise Control

A global telemedicine video conferencing system means that passengers and crew onboard ships in remote locations can still enjoy the medical expertise of a major city hospital

In the fitness center of a luxury cruise ship, a 46-year-old man collapses on the treadmill. The ship's medical team arrives at the gym within two minutes to assess and treat him. He is not breathing and they cannot find a pulse. The team establishes that he has a dangerously erratic heart rhythm and they deliver an electrical shock to his heart, which restores the normal rhythm and his pulse and respiration. The team immediately transfers him to the ship's medical center for further monitoring and treatment.

Unfortunately, the heart irregularity repeats several more times in the medical center and, despite administering specific medications and several more shocks, they are unable to stop it from recurring. Recognizing that his life is in danger and that they are at least two days from the nearest port, they contact the Cleveland Clinic Foundation for assistance through their telemedicine program. This link, via Inmarsat's satellite network, allows physician consultants at the Cleveland Clinic in Weston, Fla., to see the patient's X-ray images, his electrocardiograms (ECGs) and even the actual patient to provide assistance with difficult scenarios.

On hearing the patient's history and reviewing an X-ray and the ECGs, the Cleveland Clinic cardiologist recognizes that the unusual rhythm can be treated with a drug called magnesium sulphate. Once the drug is administered, the patient's heart rhythm returns to normal, his condition remains stable and he is allowed to disembark at the next port.

The scene described above features a MedServe Live telemedicine monitoring system in which a Polycom ViewStation® 128 interactive video conferencing system plays a crucial part. Such systems are being fitted onboard cruise ships to provide a real-time link to the emergency departments of onshore hospitals. The live video communication link enabled by the Polycom ViewStation systems allows doctors to see the patient, review data and interact in real-time with the remote doctors to provide a fast and accurate diagnosis.

The telemedicine system utilizes the Inmarsat satellite network as its communication element. An Inmarsat B terminal on the ship can be used to establish a reliable data connection at sea virtually anywhere in the world for the transmission of X-rays, for example, or live video conferencing and high-quality pictures.

Princess Cruises began installing the systems on its fleet four years ago. Its ships visit destinations around the world, on all continents and as far afield as Alaska and Antarctica. Destinations also include Canada, the Mexican Riviera, the Caribbean, Tahiti, the Mediterranean, India and New Zealand. The first cruise ship ever to feature telemedicine, the Grand Princess, is taller than the Statue of Liberty and longer than three football fields; while another, the Ocean Princess, dazzles with glass elevators, floating staircases and stained glass domes. Between them, they boast such features as a wedding chapel, a nine-hole putting course, a full spa, speciality restaurants and a 24-hour Internet café.

They also have the benefit of access to the world's finest medical care. Although each ship has two certified doctors and up to five certified nurses onboard, all of whom are maritime medicine specialists, telemedicine also makes the specialist resources of various land-based hospital experts available 24 hours a day.

Wherever in the world one of the fleet may be cruising, if a passenger is taken ill or suffers an injury, the ship's doctors can summon expert advice from one of several world-renowned medical centers, including the Cleveland Clinic Foundation in Florida, and the University of Texas Medical Branch at Galveston. Within minutes of first being told the news via the Inmarsat satellite link and seeing the patient in real-time through the Polycom ViewStation video conferencing system, the hospital expert can give advice on a multitude of severe illnesses.

Four of Princess Cruises' top-of-the-range ships presently have a MedServe Live telemedicine unit onboard: Golden Princess, Grand Princess, Star Princess and Ocean Princess.

Telemedicine also offers significant cost benefits. Before such systems were available, a ship could spend tens of thousands of dollars on airlifts if the captain decided to play it safe and rush the patient to a hospital by helicopter, rather than wait until the ship reached the next port at the scheduled time. Cargo worth thousands of dollars also could be jeopardized and extra expenses incurred, such as additional port dues and extra fuel, for a diversion that may not have been necessary.

With the MedServe Live system visually linked to a hospital via a Polycom ViewStation video conferencing system over the reliable Inmarsat network, a ship or oil platform has access 24 hours a day and 365 days a year to hospital care—and in real-time, without any dangerous delay. Passengers on luxury yachts and cruise ships, and crews working on ships and rigs in inhospitable conditions in the most remote parts of the world, can enjoy the highest level of medical expertise.

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