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Remote control systems for Critical Care Medicine – reality and perspectives

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Information about management of treatment process form far distance were announced several year ago by Critical Care Medicine Institute (Z.khelade, Zv.kheladze and other 2011,1012,2013.) The system consists of video cameras and since the united to it personal computers that are connected to the internet. By the system can be conducted permanent control on patient treatment process.

Key Words: Remote Control Systems, Critical Care Medicine ,Information

Actuality: Human life can be presented as independent form and associated form. Independent form “Classic” is presents as life itself. Associated form of life is presented as wheelchair Life, mental disordered person life, persistent vegetative condition and critical conditions.Existence of life during critical condition is only available by using of others' life with that have to be used only special medical technologies that would be maintained by personal that is educated especially.

Such an approach gives ability to maintain life in 80% of critically ill patients. That has to be considered as a great achievement of nowadays medicine. Cause of that profile patients were domed to destruction in times of not existence of critical care medicine service.*

It is noteworthy that for surviving life in this contingent of patients is required to maintain permanent monitoring of vital life signs. The point is that that vital life signs during critical condition are depressed as a rule, moreover at any moment can be depressed even more. If such an act would not be detected and recovered on time vital life signs functions can completely fade.

Unfortunately most of patient monitoring systems of critical care medicine departments are for work at the bed side of the patient or in “near” intra-hospital space and are not calculated for controlling treatment quality or for including patient’s relatives in treatment process as well as management from distance is not inverted around the world. Monitoring systems are showing only patient condition and don’t include other parameters of working (Z.Kheladze 2007)

Information about management of treatment process form far distance were announced several year ago by Critical Care Medicine Institute (Z.khelade, Zv.kheladze and other 2011,2012,2013) Necessity of constructing that system is conditioned by many factors, among which the most important is to use them at right place within that can be used during long space flights.

In this respect it is important fact that by using that system relatives of critically ill patients can “visit” there patient at their convivial time that fact is psychological assistance during treatment of the critically ill patients.

This has to be taken in consideration for perspectives of development of critical care medicine service.

It is likely that in future these departments will be presented directly by the bedside personal, whose duties will be performed by caregivers, nurses, residents and junior doctors however treatment process will be guided from the central controlling center that will be situated in distance from hospital understanding that the group of doctors that treat will take decisions about strategy of treatment. It is noteworthy that this kind of controlling centers in each state moreover in each region of this state might be one and under subjected center might be many.

This direction will level up treatment process as well as will decrease cost of treatment cause of decreasing doctor count that will be needed during treatment process which are most expensive and deficient figure in managing treatment in hospital.

Out of that creating distance management systems in critical care medicine departments have great importance and will become in to unresolved problem in next several years!

Materials and Methods: The system consists of video cameras and since the united to it personal computers that are connected to the internet. By the system can be conducted permanent control on patient treatment process.

In particular, the system is giving ability to get patient image permanently with patient's vital life signs monitoring data and implements patient electronic history, treatment process itself, patient's prescription sheet and Para clinical research audit by giving numeric and graphical image in real time. In the system are involved, financial services, accounting data, pharmacy service, treatment process itself and information about cost of treatment all data is archived and can be assessed for retro perspective analyses from any place at any time. System is working in tow way audio connection mode and can make dialogue for on time correction of treatment process. System is giving ability to control the level or productivity of working personal in critical care medicine institute approbation of the system goes from 2010 till now and by assistance of the system have been treated 3000 different sex and age critically ill patients.

Results and Discussions: Approbation of remote control system of Critical Care Medicine gives results of that that it is cheap and easy approachable technology as well as is easy in everyday use. By using of this technology is possible monitor patient image form close and far close-up for on time notice any changes in patient's condition as well as gives ability of controlling from distance in real time patient's vital life signs like are: breathing, blood circulation and other. It is possible to "request" data from laboratory and diagnostic department that are in the system.

System acts in tow way dialogue regime it gives ability at any time be supervise patient's treatment process by deciding what medicine in what dosage in what combination have to be prescribed or what manipulation have to be processed to patient.

From this outlook is ability to correct on time treatment process within there is ability to be supervised Involvement level of personal that are having part in treatment process.

In addition, of controlling function of personal that works in the clinic and treatment process of the patients system gives ability automatically be produce accounting work.

With this patient electronic history and all other data is maintained "archived" and at needed time can be easily used for scientific researches as well as for other work processing.

Have to be noted that this management system levels up sanitary-epidemiological environment and keeps on needed level intra-hospital infection complications.



System gives ability to patients relatives get full fill information about treatment and look over the patient without coming to hospital using internet at home.

Great importance has that fact that remote control system form distance gives ability to search on time third side opinion and have in time of need consultation and counseling managing ability.

System makes more reliable and effective the work of provided service increases believe in working personal regulate collegial relationship between employed personal.

Was created remote control systems for Critical Care Medicine departments that give ability to be implemented permanent monitoring and management from any distance, time, during any conditions.

Conclusion:

Was created remote control systems for Critical Care Medicine departments that give ability to be implemented permanent monitoring and management from any distance, time, during any conditions.

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შექმნილია ინტერნეტზე დაფუძნებული მართვის დისტანციური სისტემა კრიტიკული მედიცინის სამსახურებისათვის, რომელიც შესაძლებლობას იძლევა განხორციელდეს კრიტიკულ ავადმყოფთა მკურნალობის პროცესის მართვა ნებისმიერი მანძილიდან ნებისმიერ დროსა და პირობებში.