

Bond between family and newborn strengthened with IP cameras.

Olomouc University Hospital use Axis cameras in incubators for observation of premature and ill newborns.



Organization:
Olomouc University
Hospital

Location:
Czech Republic

Industry segment:
Healthcare

Application:
Video observation of
newborns in incubators

Axis partner:
NetRex s.r.o.

Mission

The newborn department of Olomouc University Hospital is equipped with 12 incubators, which are used to care for premature and ill newborns. Current medical research has shown that emotional bonds are crucial for the successful development and recovery of a child. Therefore, the chief physician of the department looked for a way to ensure a video link between the mother and the newborn using a camera installed in the incubator. The technical solution had to fulfil the demanding requirements related to the weight of the camera, easy operation and mainly work in conditions with bad lighting at the department.

Solution

Following successful test operation, AXIS P1214-E cameras were installed in all 12 incubators and connected via a platform for hosting video from NetRex. The cameras are easy to operate and provide an excellent view even in dim light. Each incubator is maintained in the system as a unique guest with secured

access for the child's family. The family can view the child in an intuitive web interface on a tablet or computer or using the NetRex Mobile smartphone application at times agreed upon with medical staff. A recording is not produced, in order to protect privacy.

Result

Olomouc University Hospital is the first hospital in the Czech Republic to enable this type of direct connection between a child in an incubator and the child's closest relatives, even in a situation when a personal visit would not be possible. The further development of this service is expected soon, and thanks to tablets and the NetRex smartphone application, children will be able to be viewed even by mothers who themselves are hospitalised at the intensive care unit. The cameras will also be used for medical analysis and for improving care.

“The system using the Axis camera in the NetRex platform has clearly been received positively by the families. Mothers and other relatives who meet for ‘incubator streaming’ appreciate very much that they can monitor the child’s development each day with their own eyes, which further strengthens their bond”

Dr Lumír Kantor, Ph.D., chief physician at the hospital’s newborn department.

Satisfying “hunger for love”

The level of care for newborns in the Czech Republic is among the best in the world, and the mortality rate of newborns in the Czech Republic is only 1.27 per thousand. Nonetheless, physicians are looking for ways to improve care even more. Research has shown that the emotional bond in the relationship between mother and child plays a crucial role in the development and recovery of a newborn. This “hunger for love” felt by a newborn is similar to hunger for food. However, intensive daily contact between the child and mother and between the child and other family members is limited during hospitalisation. This also applies to the extended family, who often have no access at all to a child in the ICU. This problem could be addressed as needed only by building a new maternity ward.

Based on inspiration from random viewing of a television show from abroad, the chief physician of the newborn department of Olomouc University Hospital, Dr Lumír Kantor, Ph.D., decided to boost this crucial emotional bond using IP video. It was confirmed that the technical parameters of the cameras made them suitable for this purpose. The online interface for watching video is user-friendly, and the families have accepted the new video service clearly positively.

How does direct streaming from the incubator work?

The AXIS P1214-E cameras are placed on a special catcher on lamps above the top glass of the incubators. What is of key importance is that the camera is low-weight and can be disconnected easily when it is necessary to handle the incubator. The camera provides a quality image even in bad light conditions, which is important, because the lighting at the department is very dim on purpose. The hospital does not need any special IT equipment or servers to operate the cameras, because they are connected directly to NetRex’s platform for hosting video.

This platform has been developed specially for video observation and enables intuitive and user-friendly access via a web interface. It is also possible to use the NetRex Mobile smartphone application for Android and iOS. In order to protect privacy, each incubator is connected to the system as separate guests and is protected by a different unique password generated for each family. In order to initiate “family broadcasting” it is only necessary to schedule a suitable time with medical staff, which can be done almost any time during the day.

The cameras will help even more

The first objective – to enable families to monitor a child from the comfort of their homes – has been fulfilled successfully, and all 12 incubators already support this service. Additional uses are planned soon for the installed camera system. The situation very often is that the mother herself is in the ICU and cannot see her child at all, other than in photographs. The newborn department therefore plans to obtain a few tablets, so that the direct video stream from the incubator is also available to those mothers via the NetRex Mobile smartphone application.

Another much more demanding objective that is being worked on is the use of the cameras for medical purposes. In this case, a recording has already been obtained, but solely for internal use by medical staff. Records from devices and vital sign values can also be integrated into the video. This will further improve the quality of care for newborns.

