Ascertaining the newborn babies' treatment needing intensive care depends largely on the radiological diagnosis. Weight at birth, pregnancy age, and respiratory problems might determine a large number of X-ray examinations. Radiological examinations on newborn babies need special care as, at this age, the probability of radio-induced cancer grows while life expectancy also increases. On the other hand, all the organs may be in the radiation beam due to the small size of babies, resulting in an exposure of the whole body when making the radiography.

This study has been carried out in an intensive care unit of a maternity ward between 2007 and 2010. It recorded the frequency and distribution of radiological examinations as well as the patients' ESD during the most important radiological procedures. We used a multi-functional device RMI 242 in order to test the radiological system's quality. The examinations were made with an X-ray mobile device Polymobil 10, with a total filter of 3.4 mm Al.

The decrease of radiological examinations could be explained by the fact that both the radiologist and the neonatal physician tried to get relevant diagnosis information avoiding useless exposures. We found higher values of ESD in pulmonary radiographies due to lower kilo-volt ages that are being used, smaller film focus distances, and the fix filtering of devices, without the possibility of using added filters.