Introduction: In the Netherlands Diagnostic Reference Levels (DRLs) have been established for eleven types of radiological examinations. Four of these DRLs pertain specifically to children: X-rays for thorax and abdomen, CT head and micturating cystourethrogram (MCUG). For a comparison of dose indications such as DLP, CTDI and DAP to the DRLs, values for 20 children per age group (0, 1, 5 and for CT head also 10 years) need to be averaged.

Purpose: The goal of this study was to find out if and how the DRLs are implemented in Dutch clinical practice. Have they been implemented in the QA systems? Are measures of dose being compared to them? What difficulties arise during practical implementation? Can differences be observed between general and children’s hospitals?

Materials and Methods: Two surveys have been conducted among 20 and 29 Dutch hospitals, respectively. The first survey was aimed at the implementation of DRLs in clinical practice. The second survey was aimed at radiation protection measures for children in general and children’s hospitals, but also inquired into comparisons to the DRLs.

Results: The first survey showed that general hospitals have difficulties in implementing the DRLs for children because they often do not receive enough children per age group to perform the prescribed comparison to the DRLs. The second survey indicated differences in radiological protection measures taken for children between general and children’s hospitals. Apart from that, DRLs were exceeded in 20% of the cases in which comparisons had been performed according to the prescribed procedure.

Conclusion: The current procedure for comparing dose indications to DRLs that has been developed in the Netherlands does not always work well for children. It is advisable to change this procedure and take into account the differences between general and children’s hospitals. With regard to radiological protection measures for children general hospitals might benefit from information exchange with children’s hospitals.