Because of this age-relation, small children in particular should be very efficiently protected against the possible hazards of ionizing radiation.

2. THYROID CANCER AFTER MEDICAL EXPOSURE TO RADIOIODINE

Comprehensive data from a Swedish longitudinal cohort study of 36,792 subjects exposed to diagnostic activities of radioiodine ($^{131}$I) indicate a small but significant increase in thyroid cancer. However, if the analysis is performed separately in those who were referred for diagnosis of suspected thyroid tumor (n=11,015) and those referred for other reasons (n=24,010), the increased risk is only seen in those who were suspected of harboring a thyroid tumor (Table 3).

Concerning the therapeutic application of radiiodine, data derived from a longitudinal follow-up study of 10,522 patients from Sweden who had been treated with radiiodine between 1950 and 1975 are available.\textsuperscript{8} In this group, the incidence of thyroid cancer after radiiodine therapy for benign thyroid disorders was not increased.

3. LATE CONSEQUENCES OF THE CHERNOBYL ACCIDENT

After the Chernobyl reactor accident on April 26, 1986, a significant increase of thyroid cancer in children and adolescents from the affected countries (Belarus, Ukraine and Western parts of Russia) has been reported.\textsuperscript{9} The highest increase in childhood cancer incidence has been reported in subjects from Belarus (Figure 1).\textsuperscript{10,11}

According to a report of the UN Chernobyl Forum Expert Group Health,\textsuperscript{11} the scenario can be summarized as follows:

- Proven radiation related increase of thyroid cancer incidence in children and adolescents (total number of cases approximately 5,000; the highest incidence occurred in the age-group 0-4).
- No difference in risk between males and females.