

Childhood Head & Neck Irradiation **FAQ**

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WHAT IS THE THYROID GLAND?

The thyroid gland located in the neck produces thyroid hormones which help the body use energy, stay warm and keep the brain, heart, muscles, and other organs working normally.

1 OVERVIEW

What is the concern about the thyroid gland and radiation?

The thyroid glands of children are especially sensitive to radiation exposure, which can cause a number of different thyroid problems including an underactive thyroid (*hypothyroidism*), overactive thyroid (*hyperthyroidism*), *thyroid nodules*, and *thyroid cancer*. The risk of thyroid disease relates to the age and dose of radiation exposure.

How can a child's thyroid be exposed to radiation?

Radiation therapy is often used to treat childhood cancers. Rarely, radiation exposure can be accidental from the ingestion of radioactive iodines, such as occurred in previous nuclear accidents.

How long after radiation exposure do thyroid problems occur?

Most radiation-induced thyroid problems occur a few years or even decades after the radiation exposure, but can occur as early as months later.

Can adults be affected by radiation exposure?

While the adult thyroid gland is less sensitive to radiation, it too may be affected, especially during radiation therapy for head and neck cancers. Hypothyroidism, hyperthyroidism, thyroid nodules and thyroid cancer can all occur after radiation exposure in adults.

If a child has been exposed to radiation, what should be done?

It is very important for anyone who has undergone radiation treatment involving the thyroid gland to have yearly visits with a healthcare provider to have a thyroid examination and to check blood tests that look at how the thyroid is working.

2 TREATMENT

Is thyroid cancer harder to treat in someone who has been treated with radiation?

Thyroid cancer that occurs after radiation therapy does not appear to be more aggressive disease. The usual treatment for thyroid cancer is still highly effective and survival rates are similar to patients who have not received radiation treatment.

How long should a physician follow someone who has had radiation treatment?

Because thyroid problems can occur many years after radiation therapy, life-long monitoring is recommended. If a patient develops hypothyroidism after radiation treatment they will need life-long treatment with *thyroid hormone*.



FURTHER READING

Further details on this and other thyroid-related topics are available in the patient information section on the American Thyroid Association® website at www.thyroid.org.

