

History

After cranial radiation therapy (RT), check for:

- Level of energy, general health
- Any new & ongoing symptoms including:
 - Visual problems
 - Hearing loss & tinnitus
 - Neurological symptoms (headaches, seizures, strokes & TIA type episodes)
 - Short term memory changes
 - Depression
- Alcohol, tobacco and illicit drug use
- Social & employment
- Current medications
- List of physicians/HCPs following patient

After spinal RT, also check for:

- Level of energy (hypothyroidism)
- Back pain secondary to degenerative disease & osteoporosis
- Infertility

Examination

After spinal RT also check:

- Spine for kyphosis/scoliosis & short sitting height

Always Check:

- **Blood pressure**
- Weight & height (BMI)
- Look for hair thinning/loss
- Skin within previous RT field (e.g. basal cell carcinomas)
- Examine neck to exclude thyroid nodules
- Neurological examination: Look for signs of cerebellar dysfunction (ataxia, nystagmus & incoordination)
- Visual acuity, visual fields & fundoscopy
- General examination of respiratory, cardiovascular & GI systems

DISCLAIMER: This document gives examples of the way in which patients previously treated for ependymoma might be followed for educational purposes only. These examples are NOT guidelines for patient care.

Authors: D. Lawless, F. Howard & K. Goddard: www.pedsoncologyeducation.com

Testing

Hearing Assessment

Audiology referral & testing should be organized every 1 - 2 years

Neurocognitive Testing

Important to demonstrate problems with higher mental function in order to obtain vocational or recreational rehabilitation or to be eligible for a disability pension

Blood Work

- Routine blood work (CBC, lytes, creatinine, BUN & LFTs)
- Hep C testing if transfusion prior to 1994
- Pituitary function should be supervised by an endocrinologist (e.g. GH deficiency is very common, but other problems like ACTH deficiency may develop many years after therapy)
- Thyroid function tests (at least free T4 & TSH)
- For metabolic syndrome:
 - Fasting blood glucose & lipids

Screening

Radiology

- MR of the head every 3 years or so to exclude RT induced meningiomas
- Thyroid ultrasound scan every 3 years after cranial & craniospinal RT to exclude thyroid carcinoma

Other Screening

- After spinal RT there is an increased risk of secondary malignancy. Patients should have early screening for colon cancer:
 - COG recommends that colonoscopy should be performed beginning at age 35 years or 10 years following RT (whichever occurs last)
- Early screening for osteoporosis (bone density & specialist referral)

DISCLAIMER: This document gives examples of the way in which patients previously treated for ependymoma might be followed for educational purposes only. These examples are NOT guidelines for patient care.

Authors: D. Lawless, F. Howard & K. Goddard: www.pedsoncologyeducation.com

Specialist Follow-up

Patient should be assessed every 1 - 2 years by:

- Endocrinologist
- Ophthalmologist or Neuro-Ophthalmologist
- May benefit from family counseling, psychology and psychiatry consultations

Advice

ACTH deficiency:

- Ependymoma survivors with hypopituitarism & ACTH deficiency need support with extra steroid medication during infections, surgery & illness
- Medic Alert bracelets are advised to warn about ACTH deficiency

Second Malignant Neoplasms (SMNs):

The patient should be advised to seek immediate medical help if:

- A new swelling (painless or painful) appears within the previous RT field as this may be due to a SMN
- Severe, persistent headaches develop associated with possible nausea and vomiting (may be associated with a new intracranial mass lesion)

Visit the COG guidelines website for more information

<http://www.survivorshipguidelines.org>

Lifestyle

- Advise about diet, exercise & lifestyle choices (such as smoking)
- Diet should contain adequate number of dairy servings, Vitamin D & calcium to help prevent osteoporosis
- Previous spinal RT may be associated with spinal underdevelopment, scoliosis, increased risk of degenerative arthritis & osteoporosis. Survivors who had this therapy should avoid work which involves lifting heavy weights
- Avoid sun burn & wear a hat in bright sunlight (skin in previous RT field will be very sensitive to sun related damage)

DISCLAIMER: This document gives examples of the way in which patients previously treated for ependymoma might be followed for educational purposes only. These examples are NOT guidelines for patient care.

Authors: D. Lawless, F. Howard & K. Goddard: www.pedsoncologyeducation.com