

# Primary brain cancer



A resource card for general practitioners

This resource has been developed as part of the Implementing PATHways for Cancer Early Diagnosis (I-PACED) project supported by the Victorian Government. It aims to increase GP awareness about critical primary care points for primary brain cancer. Secondary (metastatic) brain tumours are more common than primary tumours. This pathway refers to the high-grade glioma Optimal Care Pathway – a nationally endorsed resource.

## Summary statistics

- In Victoria 2017, there were 297 new cases of brain cancer in males and 162 new cases for females
- The five-year survival for males with brain and CNS cancer is 25% and 27% for females.

## Risk factors

- Age (over 40 years)
- Male (sex)
- Rare familial genetic syndromes e.g. Lynch syndrome, Neurofibromatosis type 1.

## Prevention

The causes of primary brain cancer are not fully understood and there is currently no clear prevention strategy. The only known cause is ionising radiation.

## Screening recommendations

### No formal population-based screening programs

- There is no evidence of benefit of screening
- People with a strong family history of primary brain cancer and related hereditary conditions should be referred to a genetic counsellor, geneticist or oncologist for consideration of genetic testing.

## Signs and symptoms

While symptoms are often non-specific, the following should be investigated:

- Increasing headaches, persistent new headaches, vomiting, unexplained morning headache
- Seizure
- Blackouts or other alterations in conscious state
- Poor coordination
- Visual deterioration
- Progressive weakness
- Change in behaviour
- Change in memory
- Confusion, drowsiness
- Speech disturbance
- Other unexplained neurological symptoms.

## Initial investigations include

- Some patients will present to an emergency department with a catastrophic new neurological problem or seizure and will require urgent neurological/neurosurgical evaluation
- All patients who present with focal neurological symptoms, first seizure, new onset or recurrent headache require urgent neuroimaging and neurological/neurosurgical evaluation to establish cause of symptoms
- Early tumours may not be visible on CT or non-contrast MRI. Where initial CT or MRI is negative, but there is continuing clinical concern, refer to a specialist.



## Referral pathway

- Prior to referral, discuss the cost implications to enable patients to make an informed decision regarding their choice of specialist and health service, including out of pocket costs: for example, radiological tests and specialist appointments.
- All patients with suspected or proven primary brain cancer should be referred to a neurologist or neurosurgeon linked with a multidisciplinary team (MDT) and be seen within 24 hours
- Information should include:
  - ▶ Relevant psychosocial, medical and family history, current medications, allergies and results of clinical investigations (imaging and pathology results)
  - ▶ Ideally, patients should be provided with images on a CD.

### Local referral process and proformas can be found at:

If you have access to Murray HealthPathways, view oncology referral pathways [here](#).  
 To view Cancer Supportive Services [click here](#)  
 To request access, please [click here](#)

## Patient resource checklist

- ✓ For additional practical and emotional support, encourage patients to call **Cancer Council 13 11 20** to speak with an experienced oncology nurse or visit [www.cancervic.org.au](http://www.cancervic.org.au) for more information about primary brain cancer.

**For translator assistance call TIS on 13 14 50**

- ✓ Download the 'What to expect – High grade glioma' guide at [www.cancerpathways.org.au](http://www.cancerpathways.org.au)
- ✓ **Brain Tumour Alliance Australia** – for free information packs, support and resources, visit [btaa.org.au](http://btaa.org.au) or freecall **1800 857 221**

The Optimal Care Pathways were developed through consultation with a wide range of expert multidisciplinary teams, peak health organisations, consumers and carers. They are nationally endorsed by the National Cancer Expert Reference Group, Cancer Australia and Cancer Council Australia.

For more information on the Optimal Care Pathways please refer to [www.cancervic.org.au/for-health-professionals/optimal-care-pathways](http://www.cancervic.org.au/for-health-professionals/optimal-care-pathways)

Figure 1: **Risk assessment tool**

Headache	Motor loss	New-onset seizure	Confusion	Weakness	Memory loss	Visual disorder	PPV = Positive predictive value (%) or probability of Ca if Sx present
0.09	0.026	1.2	0.2	0.14	0.036	0.035	PPV as a single symptom

### Probability of cancer

<1%  1-2%  2-5%  >5%

**Figure 1** shows the probability of primary brain cancer for individual symptoms in people over 18 years.<sup>1</sup>

Where a patient presents with a headache and any of the other symptoms listed in the figure above, the positive predictive value for a primary brain cancer is 0.39%.

**Reference:** 1. Hamilton W, Kernick D. Clinical features of primary brain tumours: a case-control study using electronic primary care records. *British Journal of General Practice*. 2007;57(542):695-9.

