



# NeuRA

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## BIPOLAR DISORDERS Factsheet

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### What is positron emission tomography (PET) and single-photon emission computed tomography (SPECT)?

PET and SPECT are nuclear-based imaging techniques that utilise radioactive tracers to visualise functional brain activity. The radioisotopes tracers are coupled with a biological molecule such as glucose, which is used during cellular metabolism and can be used to highlight areas with changes in metabolic activity. While SPECT offers more limited spatial and temporal resolution than PET, it is less expensive as it does not require a cyclotron in close proximity.

### What is the evidence for PET and SPECT anomalies in people with bipolar disorder?

Low quality evidence is unable to determine differences in cerebral blood flow using PET or SPECT in people with bipolar disorder compared to controls, or when compared to people with unipolar depression.

Review authors conclude that the most consistent findings are for reduced cerebral blood flow in frontal, temporal and parietal regions of people with bipolar disorder compared to controls, with no differences when compared to people with unipolar depression.

For more information see the technical table



## NeuRA

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*NeuRA (Neuroscience Research Australia) is one of the largest independent medical and clinical research institutes in Australia and an international leader in neurological research.*

*Diseases of the brain and nervous system pose the greatest health, economic and social burden of any disease group because they are chronic, debilitating and have no known cures.*

*Medical research is the cornerstone of efforts to advance the health and wellbeing of families and the community. Our dedicated scientists are focussed on transforming their research into significant and practical benefits for all patients.*

*While we hope you find this information useful, it is always important to discuss any questions about bipolar disorder or its treatment with your doctor or other health care provider.*

### HOW YOUR SUPPORT HELPS

We are able to make significant advances due to the generosity of countless people. Your donation allows us to continue to work towards transforming lives. For information on how you can support our research, phone **1300 888 019** or make a secure donation at [neura.edu.au](http://neura.edu.au).