

# Diagnostic Imaging Pathways - Psychosis (First Episode)

## Population Covered By The Guidance

This pathway provides guidance on the imaging of adult patients with first presentation of psychosis, to exclude an intracranial organic cause.

**Date reviewed: July 2014**

**Date of next review: 2017/2018**

**Published: November 2014**

## Quick User Guide

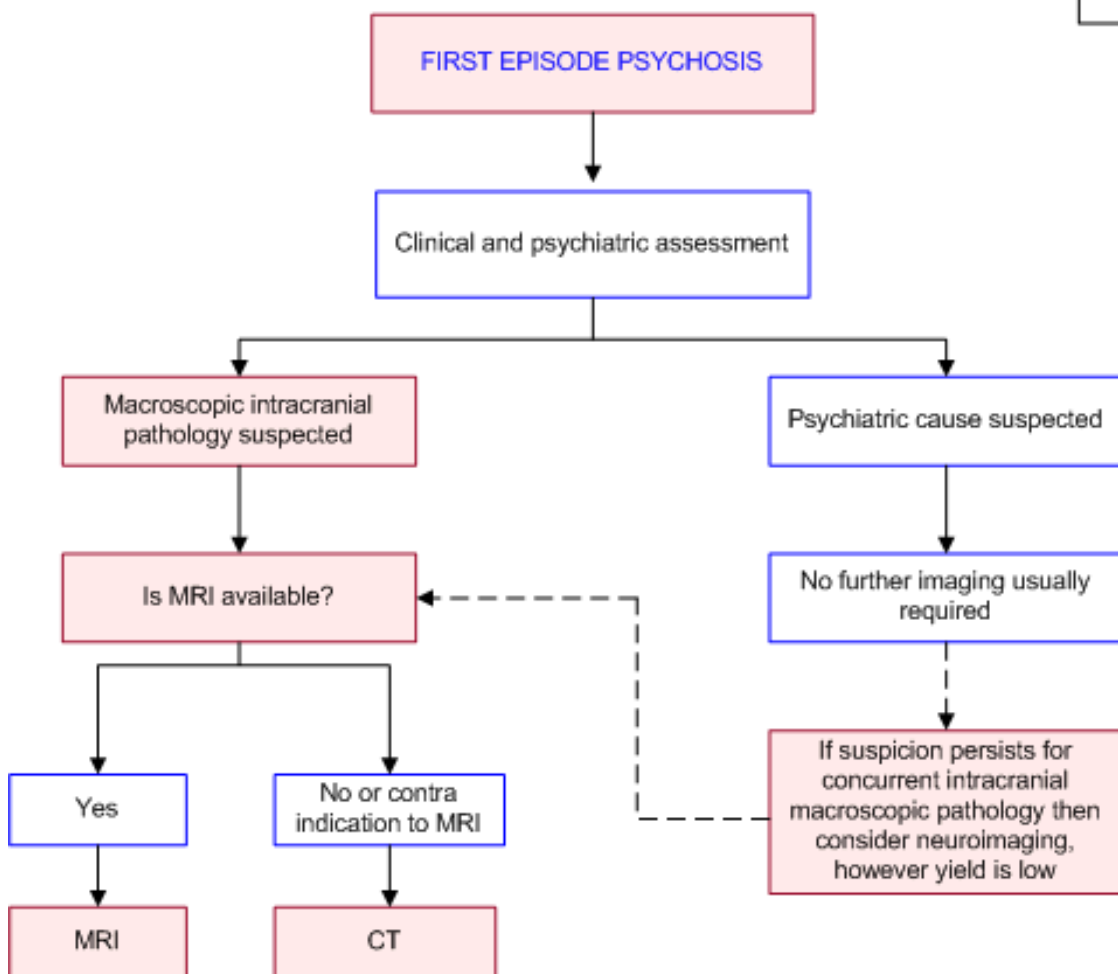
Move the mouse cursor over the **PINK** text boxes inside the flow chart to bring up a pop up box with salient points.

Clicking on the **PINK** text box will bring up the full text.

The relative radiation level (RRL) of each imaging investigation is displayed in the pop up box.

SYMBOL	RRL	EFFECTIVE DOSE RANGE
	None	0
	Minimal	< 1 millisieverts
	Low	1-5 mSv
	Medium	5-10 mSv
	High	>10 mSv

## Pathway Diagram



## Image Gallery

*Note: These images open in a new page*

*Coming soon*

## Teaching Points

- Neuroimaging can identify organic causes in patients with first episode psychosis and enhance diagnostic certainty
- Routine neuroimaging in FEP patients without neurological signs is controversial and has a very low yield for potentially causal lesions (<3%), similar to healthy volunteers. Local practice is consensus-based
- The Royal Australian and New Zealand College of Psychiatrists (RANZCP) recommends neuroimaging as part of the optimal initial assessment for patients presenting with first episode of psychosis where as NICE (National Institute for Health and Care Excellence) does not
- Patients with psychosis have been shown to have structural abnormalities when compared to controls on imaging, but whether imaging alters clinical management/outcome is still debated

## First Episode Psychosis

- Neuroimaging can identify organic causes of First Episode Psychosis (FEP) and is indicated when there is clinical suspicion after specialist psychiatric assessment
- MRI is comparable to CT in detecting structural causes of FEP [1](#) but MRI is generally preferred due to higher sensitivity for areas of interest; e.g. white matter changes, hippocampal changes suggesting epilepsy, vascular problems
- The usefulness of routine imaging in FEP where intracranial pathology is not suspected clinically is debatable. In the absence of neurological signs the prevalence of potentially causal brain lesions on neuroimaging is 0-3%, far outweighed by incidental findings, similar to healthy volunteers and unlikely to alter management [1-6](#)
- While one Australian study found clinically important findings on MRI in 7.9% of FEP patients, this was not significantly different to normal controls and in only 1.3% of cases were lesions potentially accountable [7](#)
- Due to the lack of evidence on clinical and cost-effectiveness, the National Institute for Health and Care Excellence does not recommend neuroimaging as a routine part of initial investigations for FEP [8,9](#) (6mm) cavum septum pellucidum [12-14](#)
- decreased cerebral volume [15-17](#)
- increased ventricular system volume, especially in the lateral and third ventricles [15,16](#)
- decreased hippocampal volumes

In addition, chronic schizophrenia has been shown to be associated with [15](#)

- decreased volume of the amygdala
- increased volume of the basal ganglia

Information for consumers on CT [InsideRadiology](#)  
Information for consumers on MRI [InsideRadiology](#)

## References

of literature search: June 2014

search methodology is available on request. [Email](#)

References are graded from Level I to V according to the Oxford Centre for Evidence-Based Medicine, Levels of Evidence. [Download the document](#)

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## Information for Consumers

Information from this website	Information from the Royal Australian and New Zealand College of Radiologists' website
<a href="#">Consent to Procedure or Treatment</a>	<a href="#">Computed Tomography (CT)</a>
<a href="#">Radiation Risks of X-rays and Scans</a>	<a href="#">Contrast Medium (Gadolinium versus Iodine)</a>
<a href="#">Computed Tomography (CT)</a>	<a href="#">Gadolinium Contrast Medium</a>



[Magnetic Resonance Imaging \(MRI\)](#)

[Iodine-Containing Contrast Medium](#)

[Magnetic Resonance Imaging \(MRI\)](#)

[Radiation Risk of Medical Imaging During  
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