



# NeuRA

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## SCHIZOPHRENIA Factsheet

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### What is psychomotor ability?

Psychomotor ability refers to a wide range of actions involving physical movement related to conscious cognitive processing. Psychomotor ability may be measured by accuracy or speed (reaction time). Examples of psychomotor tests include the Grooved Pegboard test, and the Purdue Pegboard test that measure visual-motor coordination. The Finger Tapping test requires study participants to place their dominant hand face-down and tap as quickly as possible. The task is repeated with the non-dominant hand and assesses motor speed, manual dexterity and lateralisation. The Digit Symbol Substitution test involves paired numbers and symbols. Participants are shown several numbers and asked to write the missing corresponding symbols as quickly as possible, measuring motor ability and attention. The Pursuit Rotor Motor task presents participants with a turntable with a dot in the centre that they must hold with a flexible metal wand as the turntable spins, measuring motor coordination and learning. The Star Mirror Tracing task asks participants to trace a star while only looking at their hand in the reflection of a mirror, assessing visual-motor learning.

### What is the evidence for psychomotor ability?

Compared to people without schizophrenia, moderate to high quality evidence suggests poor psychomotor ability in people with schizophrenia, including people with first-episode schizophrenia, or early onset schizophrenia (< 16 years old). People at clinical high-risk for psychosis also showed poorer psychomotor ability compared to controls.

Compared to people with affective psychoses such as bipolar disorder, moderate to high quality evidence found a small effect of poor psychomotor and mental speed in people with schizophrenia.

In general, high quality evidence found greater improvement in motor skills in people taking second generation antipsychotics compared to people taking first generation antipsychotics. Specifically, moderate quality evidence suggests people taking clozapine may show improvements in motor skills after treatment, while people taking olanzapine, quetiapine, risperidone or haloperidol show no improvements.

High quality evidence found a small effect of better psychomotor skills in people with a psychotic disorder and a substance use disorder when compared to people with a psychotic disorder without a substance use disorder. Moderate quality evidence found a large effect of poor motor performance in people with schizophrenia and antisocial traits compared to people with antisocial traits without schizophrenia.

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 schizophrenia 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/donate](http://neura.edu.au/donate).