

PDCogniCare

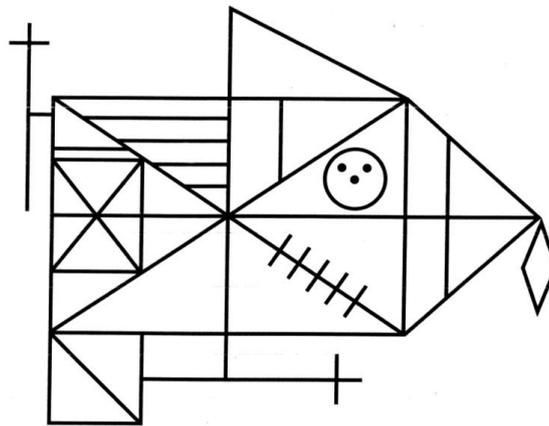
Rey Osterrieth Complex Figure

ROCF

Description

The Rey-Osterrieth Complex Figure test (ROCF) is a common measure of visuoconstruction and visual memory.^{39, 40} Clients are tasked with copying a complex figure (Figure 3) using pen and paper, and then reproducing this figure from memory after 20 minutes in a delayed recall trial. This test is not included in the MDS recommendations for PD-MCI or PDD, but is valid for use in PD.^{35, 41}

Figure 3 The Rey-Osterrieth Complex Figure



Validated in PD*



Validated for
telehealth



Alternative versions
available

Training and Administration



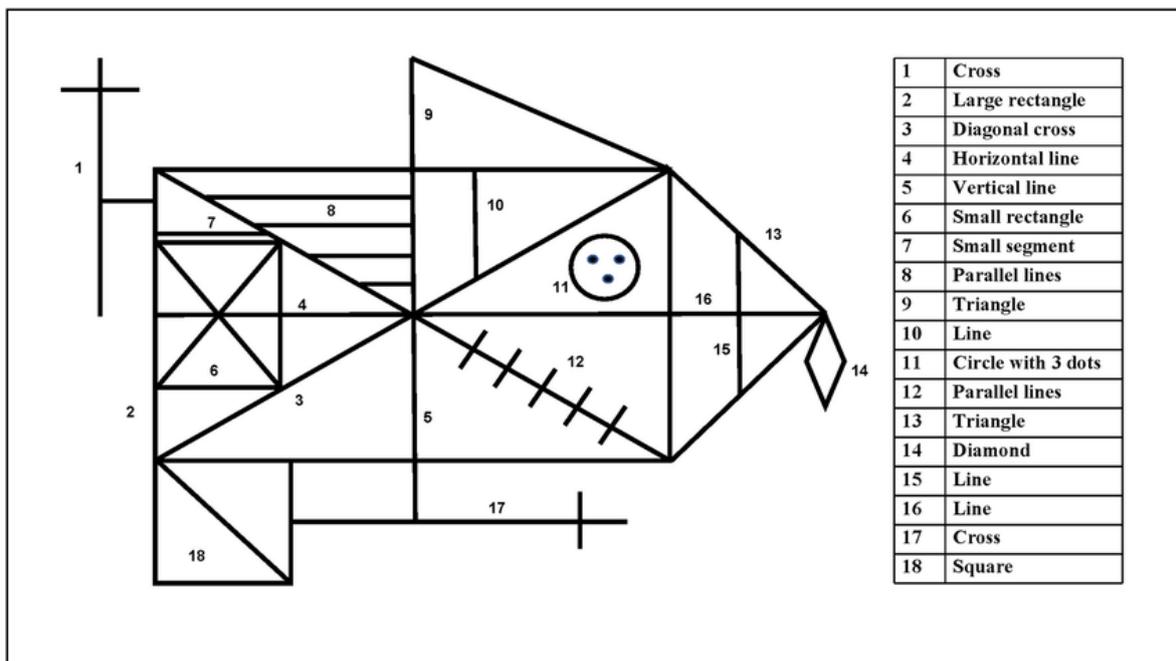
The ROCF is licensed. The instruction protocol is included in the test manual. To administer the test, the ROCF stimulus and a blank piece of paper is placed before the client. The client is asked to copy the figure as best as they can. They cannot trace the figure but are allowed an eraser. The client is given as much time as they need to complete the trial. Once the trial is complete, the drawing and the ROCF stimulus is put away. After 20 minutes, the client is prompted to recall the figure they were asked to copy earlier and asked to draw the figure from memory. The client should not be warned about the delayed recall trial.

Scoring

This test has a 36-point scoring system. Copying scores below 29 and recall scores below 10 indicate cognitive impairment in PD.³⁵ The traditional scoring method divides the ROCF into 18 distinct components (Figure 4).⁴⁰ Each component has a maximum of two points to be allocated:

- 2 points = accurate figure in correct location
- 1 point = accurate figure, incorrect location OR inaccurate figure, correct location
- 0.5 points = inaccurate figure but recognisable and incorrect location
- 0 points = missing component that is not recognised

Figure 4 Scoring of the Rey Osterrieth Complex Figure⁴²



Alternative Versions

The Taylor Figure is an equivalent alternative version to the ROCF.⁴³

PD Considerations

The ROCF requires drawing and thus relies on motor control for completion. In people with PD without dementia, ROCF performance is highly correlated with motor function.⁴⁴ To mitigate the impact of motor impairments on test results, Stout and Paulsen⁴⁵ recommend providing people with movement disorders unlimited time to complete the delayed recall trial and allow breaks if needed.



Telehealth

The ROCF copy and recall trials have demonstrated moderate reliability for direct-to-home videoconference administration in a cohort of older adults with cognitive impairment or cognitive complaints.⁴⁶

Psychometric and Normative Data

Normative data for the ROCF copy and recall are shown in Table 6.⁴⁷

Table 6 Normative Data from the United States for the ROCF test

Age Group	N	Copy; Mean (SD)	Recall; Mean (SD)
50 – 65	57	31.17 (4.43)	16.44 (6.08)
55 – 70	77	31.94 (3.37)	15.91 (5.91)
60 – 75	96	31.76 (3.63)	15.29 (5.57)
65 – 80	102	31.38 (4.00)	14.61 (5.58)
70 – 85	83	30.87 (4.16)	13.64 (5.31)
75 – 85	49	30.14 (4.52)	13.17 (5.32)

Psychometric data for the ROCF is shown in Table 7.³⁵

Table 7 Psychometric data for PD-MCI (copy) and PDD (recall) for the ROCF

	Cutoff	Sensitivity	Specificity	PPV	NPV	AUC (95%CI)
Copy ³⁵	<29	59	96	87	85	0.80 (0.67 - 0.85)
Recall ⁴⁸	≤13.0	85.7	75.0	72.0	87.5	0.89 (0.79–0.98)