

# Clock Drawing Task

Freehand clock drawing is a complex task that requires different abilities in addition to constructional skills.<sup>1,2</sup> It has been shown to be a sensitive measure of constructional apraxia,<sup>2</sup> but also may reflect general deficits in the conception of time.<sup>1</sup> This task is particularly useful as a screening tool to differentiate normal elderly from individuals with cognitive impairment, and in particular with Alzheimer's disease, which accounts for the majority of all dementias.<sup>3</sup> It is important to note that performance on this brief screening test does not establish criteria for dementia. However, it can be useful in determining whether further cognitive evaluations—such as the Mini-Mental State Examination (MMSE)—are necessary.<sup>4</sup>

## Instructions

Ask the person to draw the face of a clock, putting the numbers in the correct positions. After he/she has drawn a circle and placed the numbers in position, ask him/her to draw in the hands indicating ten minutes after eleven or twenty minutes after eight.

## Scoring

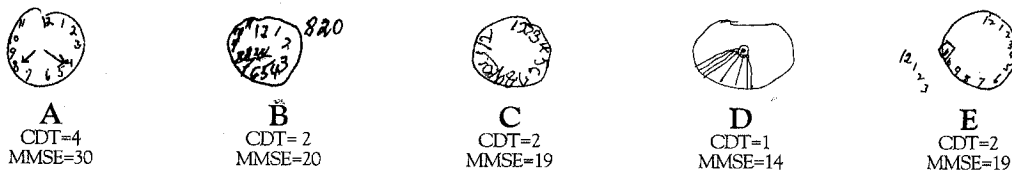
Although various methods for scoring the Clock Drawing Task have been described,<sup>1,2,4</sup> a 0–4 point method<sup>5</sup> is presented here, which is brief, sensitive, and easy to apply<sup>4</sup>:

Draws closed circle:	Score 1 point
Places numbers in correct positions:	Score 1 point
Includes all 12 correct numbers:	Score 1 point
Places hands in correct positions:	Score 1 point

## Interpretation

Certain errors, such as grossly distorted contour or extraneous markings, are rarely produced by cognitively intact persons.<sup>4</sup> **Clinical judgment must be applied, but a low score indicates the need for further evaluation.** It is important to note that any cut-off score is subjective and arbitrary, and classification errors may occur. However, it is unlikely that a cognitively impaired person will draw a perfectly drawn clock. When in doubt, multiple sources of evidence should be examined.<sup>4</sup>

## Examples of Clock Drawing



**Figure:** Examples of clock drawing by a normal elderly control (A) and patients with dementia (B-E). For these examples, patients were instructed to draw in the hands at twenty minutes after eight. Respective CDT and MMSE scores are shown below each drawing.<sup>4\*</sup>

## Next Step

Performance on this brief screening test does not establish criteria for dementia, but can be useful in determining whether further cognitive evaluations are necessary.<sup>4</sup>

- If performance on clock drawing is impaired, a complete diagnostic evaluation for dementia (eg, *DSM-IV*<sup>TM6</sup> criteria) should be considered
- Evaluation should include a standardized cognitive assessment such as the Mini-Mental State Examination (MMSE)

\*Figure adapted with permission from Nolan KA, Mohs RC. Screening for dementia in family practice. In: Richter RW, Blass JP, eds. *Alzheimer's Disease: A Guide to Practical Management. Part II*. St. Louis, Mo.: Mosby-Year Book, Inc.;1994:81-95.