Teaching Video *NeuroImages*: Callosal apraxia

A straightforward model of ideomotor apraxia

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Figure MRI of the patient

Diffusion-weighted images show a high signal intensity lesion in the body and splenium of the corpus callosum, consistent with embolic infarction of the pericallosal artery, a complication of the coronary artery bypass graft (CABG).

A 57-year-old right-handed man complained of difficulty using his hands post-coronary artery bypass graft (figure). Neurologic examination revealed signs of callosal disconnection without hemiparesis. When asked to perform limb gestures such as “brush your teeth” or “wave goodbye,” the right hand performed flawlessly whereas the left hand was severely apraxic (video on the *Neurology*® Web site at www.neurology.org).

Apraxia can be a confusing topic because of overlapping definitions and subtypes. This case illustrates the primary observable manifestation: a previously learned, skilled movement becomes peculiar looking. This occurs because motor memory degrades or becomes inaccessible.¹ In this case the right hemisphere, disconnected from motor

programs stored on the left, generates exemplary apraxic movement.²

AUTHOR CONTRIBUTIONS

Dr. Jablonski: drafting and revising the manuscript. Dr. Antoniello: drafting and revising the manuscript and videos.

STUDY FUNDING

No targeted funding reported.

DISCLOSURE

The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

REFERENCES

1. Krakauer JW, Shadmehr R. Towards a computational neuropsychology of action. *Prog Brain Res* 2007;165:383–394.
2. Leiguarda RC, Marsden CD. Limb apraxias: higher-order disorders of sensorimotor integration. *Brain* 2000;123:860–879.

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Neurology 2013;80:e239

DOI 10.1212/WNL.0b013e318294b319

This information is current as of May 27, 2013

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