

The Memory Practice

Newsletter

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In this issue, Dr. Michelon tells you about

What does the brain at rest do?

Plus a few Brain Exercises to start the New year!

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Do you know adults who would benefit from mental stimulation? Let them know about The Memory Practice!

Contact Dr. Michelon to discover the advantages of our Home Program:

- Brain exercises sent directly at home

- Regular feedback from Dr. Michelon

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What does the brain at rest do?

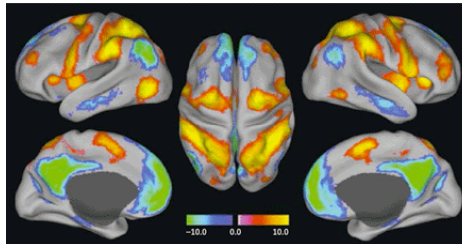
More than you would think!

A team of researchers from Washington University School of Medicine, has tried to answer the question: "What does a brain do when asked to do nothing in particular?"

The leader of this team, Marcus Raichle, is a professor of radiology and neurology who helped discover PET (positron emission tomography), a way of imaging the brain.

Raichle and his colleagues pursue this line of research after realizing that when the brain is engaged in a specific task, it consumes only 10% of its energy budget. However, when the brain does nothing in particular it consumes more than 50% of its energy budget!

Raichle et al. used imaging techniques to understand the brain at rest. The following figure shows the fMRI images of a normal human brain at rest. The colored areas are the areas active when the brain is not focusing on any tasks in particular.



Brain areas active during rest. From Fox et al. (2005). Proc. Natl. Ac. of Science, 102, 9673.

As you can see your brain is quite busy even when you don't do much! Activity in this network of brain areas is not just random noise, it is highly organized. Raichle called this network the "default network".

We don't know yet what the activity in the default network reflects.

One possibility is that it represents unconstrained, spontaneous thoughts (that is, day-dreaming). Indeed, in one published case study, Raichle reports that a woman who suffered damage to part of the default network initiated almost no spontaneous thoughts. "Her mind was empty," Raichle says. Another possibility is that this activity helps the brain to be ready to respond to external stimuli or events.

A few brain exercises to start the New Year!

(solutions on p.2)

Find the word that comes next:

Bear	Orange	Shoulder
Daffodil	Spoon	Steak
Tiger	Pear	Melon
Tulip	Fork	Chin
Horse	Apple	Sausage
Rose	Knife	Tomato
<u>CAT</u>	_____	_____

Cross out the repeated numbers. Then add the first 2 remaining numbers and multiply their sum by the third remaining number:

2 6 8 2 7 5 1 5 6 = _____

3 0 8 5 0 3 4 8 2 = _____

7 4 6 5 1 2 4 5 1 = _____

6 2 8 5 6 4 9 4 8 = _____

Brain exercises SOLUTIONS**What comes next?**

Orange (fruit)
 Spoon (kitchen utensil)
 Pear (fruit)
 Fork (kitchen utensil)
 Apple (fruit)
 Knife (kitchen utensil)
BANANA (a fruit)

Shoulder (body part)
 Steak (meat)
 Carrot (vegetable)
 Chin (body part)
 Sausage (meat)
 Tomato (vegetable)
HAND (body part)

Cross out repeated numbers...

2 6 8 2 7 5 1 5 6 = 15

3 0 8 5 0 3 4 8 2 = 18

7 4 6 5 1 2 4 5 1 = 26

6 2 8 5 6 4 9 4 8 = 63