

TECHNOLOGY TO SUPPORT COGNITION: It's not just about the apps

Assistive technology for cognition (ATC) describes a range of external aids used to support individuals with compromised cognitive ability following brain injury. These devices promote independence by allowing a person to perform tasks s/he might not be able to complete easily alone (e.g., schedule and remember appointments, keep track of contact information, manage to-do lists, or track expenses). ATC tools include both low-tech and high-tech devices. This brief will focus on mainstream, high-tech devices.

Examples of ATC Devices

Low-tech tools include:

Calendars, post-it notes, timers, written checklists, alarm clocks, medication/pill boxes

High-tech tools include:

Cell phones, smart phones, tablets, GPS (global positioning system) devices

What are important considerations regarding high-tech ATC?

Potential advantages:

Electronic devices are convenient and easy to carry from one location to another. They provide the ability to add repeat entries for events that occur on a regular basis. They also provide alerts/reminders to help remember upcoming events and tasks.

Another important and often overlooked advantage is that they provide access to the same features and applications for tracking and remembering information used by the non-disabled population. The widespread use of electronic devices removes the stigma that can accompany the use of external aids following brain injury.

Potential disadvantages:

The same features that make high-tech ACT useful for some could be a source of difficulty for others. For example, portability means smaller overall size, which can make it difficult for those with vision or hand movement problems to see or easily operate a device.

Also, the cost of mainstream devices, including service contracts and data plans for cell phones and smart phones, is often prohibitive. Medical insurance rarely covers these devices and plans, making them an unlikely option for many individuals with disabilities living on a fixed income.

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Center On Brain Injury
Research & Training
99 West 10th Avenue, Suite 370
Eugene, OR 97401



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What about apps?

The growing popularity of smart phones and tablets has led to the availability of a vast number of free or low-cost apps. Native apps, those that come pre-installed on a device, typically include calendar, contacts, camera, notes, and timers/alarm clocks. There is also an ever increasing number of non-native apps, such as Appigo ToDo, Forgetful, and Week Calendar, that offer helpful features frequently unavailable on native apps. Non-native apps can be downloaded for free or a small fee from an outside source such as iTunes.

Systematic assessment and training of ATC.

Finding the most appropriate device and apps to compensate for cognitive disabilities following brain injury can be a challenge. A person can quickly become confused and overwhelmed by the complexity of the devices and the sheer number of apps available. The TATE (Training Assistive Technology in the Environment) Toolkit guides the systematic assessment and training of devices and apps following brain injury and is available for free:

< <http://cbirt.org/products/training-assistive-technology-environment-tate/> >.

Does research support the use of ATC?

Yes, the research literature does support the effectiveness of ATC for improving the independence of people with cognitive disabilities. A current literature review (Gillespie, Best, & O'Neill, 2012) found that ATC devices have been used to effectively support cognitive functions such as memory and organization following brain injury. In addition, substantial research supports the effectiveness of systematic instruction following brain injury, including its application to external aids such as ATC (Sohlberg & Turkstra, 2011).

Where can I find more information?

Gillespie, A., Best, C., & O'Neill, B. (2012). Cognitive function and assistive technology for cognition: A systematic review. *Journal of the International Neuropsychological Society: JINS*, 18(1), 1-19.

Making Cognitive Connections App Reviews:
<http://id4theweb.com/appreviews.php>

Brainline, 27 Life-Changing iPhone and iPad Apps for People with Brain Injury
<http://www.brainline.org/content/2011/05/23-lifechanging-iphone-ipad-apps-for-people-with-brain-injury.html>

20 Life-Changing Android Apps for People with Brain Injury
<http://www.brainline.org/content/2011/07/20-android-apps-for-people-with-brain-injury.html>

Sohlberg, M. M., & Turkstra, L. S. (2011). *Optimizing cognitive rehabilitation: Effective instructional methods*. New York, NY: Guilford Press.

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