From Treating to Preventing: A New Tack for Alzheimer’s Disease Research

Prevention rather than intervention. It’s a relatively recent and extremely significant shift in how Alzheimer’s disease researchers approach their work. Today’s top scientists are investigating therapies that have the potential to either prevent Alzheimer’s disease or to treat it at its earliest stage, before damage has occurred and symptoms have surfaced.

Banner Alzheimer’s Institute (BAI) championed this new era in Alzheimer’s prevention research by founding the Alzheimer’s Prevention Initiative (API). Under the API umbrella, scientists and physicians as well as industry and regulatory agency representatives from around the world collaborate on trials and other important biomedical research.

What’s API’s mission? Its ultimate goal is to postpone, reduce the risk of, or prevent the clinical onset of Alzheimer’s disease. To accomplish this, API supports prevention studies and trials of promising Alzheimer’s disease therapies that target prevention and early treatment. The trials include cognitively normal people who – due to age and genetic background – are at high risk of developing symptoms due to Alzheimer’s disease.

These trials will help researchers determine whether anti-amyloid drugs are likely to help people with Alzheimer’s disease. Anti-amyloid drugs target protein fragments (amyloid) that build up in the brains of people with Alzheimer’s disease. Here’s a look at the BAI trials:

- **Apolipoprotein E (APOE4) Treatment Trial**—BAI researchers are embarking on a five-year study of two investigational anti-amyloid drugs. One of the two drugs is designed to trigger the body’s immune system to produce antibodies that attack different forms of the amyloid protein. The second drug aims to prevent the production of different forms of amyloid protein. The drugs will be studied separately.

The APOE4 Trial will launch in the second half of 2015 and involve approximately 1,300 cognitively healthy people ages 60-75 who are at high risk for Alzheimer’s symptoms because they’ve inherited two copies of the APOE4 gene.
One of the biggest challenges researchers face is lack of study participants. In fact, 80 percent of research studies fail to attract enough participants. This means promising and innovative Alzheimer’s research may be halted or delayed due to lack of study participants.

To change this, in 2011 API – with international support from scientists and other Alzheimer’s advocates – introduced the Alzheimer’s Prevention Registry. The Registry gives people 18 years or older of all races and ethnicities – whether or not they have a family history of the disease – the opportunity to become involved in the effort to end Alzheimer’s. The online Registry is accelerating research by connecting individuals committed to preventing Alzheimer’s with scientists carrying out prevention studies.

The Registry’s goal is to sign up 200,000 individuals. Currently, more than 40,000 volunteers have signed up to learn about Alzheimer’s prevention studies.

Here’s how you can get involved:

- Visit the Registry at www.endALZnow.org and sign up to help end Alzheimer’s;
- Peruse the website to learn about prevention studies and trials happening near you;
- Participate in studies you choose and for which you qualify;
- Receive e-mail updates to keep you apprised of the latest Alzheimer’s advances and news; and
- Join the conversation about Alzheimer’s on Facebook and Twitter. You can help the Prevention Registry reach its goal and become involved in the quest to end Alzheimer’s disease. For more information, please visit www.endALZnow.org.

Did you know a charitable gift through Banner Alzheimer’s Foundation will serve as an investment in the health and wellness of our community and others around the world? To make a gift and join our community of friends, call 602-747-GIVE (4483) or visit www.banneralz.org/waystogive.

Our Mission

To end Alzheimer’s disease without losing a generation, to set a new standard of care for patients and their families, and to forge a model of collaboration in biomedical research.
Ask The Expert

Jessica Langbaum, PhD
Principal Scientist, Banner Alzheimer's Institute
Associate Director, Alzheimer's Prevention Initiative

Dear Dr. Langbaum,

My mother-in-law was recently diagnosed with Alzheimer's disease. Now her children, including my husband, are worried they're all destined for an Alzheimer’s diagnosis. Is this true? What are the risk factors for Alzheimer’s?

Signed,

Jennifer

Dear Jennifer:

A diagnosis of Alzheimer’s disease is very stressful and the reaction of your husband and his siblings to that news is normal. It’s true that a family history of Alzheimer’s increases your risk for developing it. If you have one parent with Alzheimer’s, you have a one-and-a-half greater chance of developing it. With two parents who have Alzheimer’s, you have five times the average risk for the disease.

The gene with the strongest influence for Alzheimer’s is called the apolipoprotein E (APOE4). Scientists estimate that APOE4 may be a factor in 20 to 25 percent of Alzheimer’s cases. Autosomal dominant Alzheimer’s disease (ADAD) – or familial Alzheimer’s disease, as it’s called – accounts for less than 5 percent of Alzheimer’s cases.

Age is the most significant Alzheimer’s risk factor. The likelihood of developing Alzheimer’s doubles about every five years after age 65. After age 85, the risk reaches nearly 50 percent.

Most Alzheimer’s diagnoses are the result of a combination of genetics and other risk factors. We can’t change some risk factors, such as age, family history and heredity. However, research suggests there may be other factors that we do influence, including:

- **Head trauma** — Scientists believe there is a strong link between serious head injury and future risk of Alzheimer’s, especially when trauma occurs repeatedly or involves loss of consciousness.

- **Physical health and exercise** — Chronic conditions – hypertension, high cholesterol and diabetes – affect brain health and are known to contribute to both Alzheimer’s disease and vascular dementia (stroke-induced dementia). By eating a healthy diet and exercising, your husband and his siblings may be able to avoid these chronic conditions.

- **Brain health** — Maintaining mental activity can help keep the brain sharp. Taking on a new hobby, playing word games, keeping socially active are examples of good ways to challenge your brain.

Researchers are learning more about Alzheimer’s disease all of the time. Your family can learn more and get involved by visiting the Alzheimer’s Prevention Registry (www.endalznow.org).
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**Beacon Bits (Continued)**

**Communication Tips to Avoid Arguments**
Tuesday, October 21, 12:30 – 2:30 p.m.
Banner Alzheimer’s Institute, Third Floor Conference Room
901 E. Willetta Street, Phoenix
Free but registration is required.
Call (602) 839-6850 to register.

**Brain G.Y.M. Boot Camp**
Friday, October 24, 12:00 – 4:00 p.m.
Desert Foothills Library
38443 N. Schoolhouse Road, Cave Creek
$25.00 per person includes instruction and workbooks for class and home use.
To register, call (602) 230-CARE

**West Valley Events:**
**Brain G.Y.M. Boot Camp**
Monday, October 6, 9:00 a.m. – 1:00 p.m.
Benevilla
16752 N. Greasewood Street, Surprise
$25.00 per person includes instruction and workbooks for class and home use.
To register, call (602) 230-CARE

**Lecture: Alzheimer’s Prevention Research – What You Need to Know**
Friday, October 10, 10:30 a.m. – noon
Banner Sun Health Research Institute
10515 W. Santa Fe Drive, Sun City
Free but registration is required.
To register, call (602) 230-CARE