

## Brain Health

### A Subject That Matters To Everyone

"Learn as if you were going to live forever.  
Live as if you were going to die tomorrow."  
-ANONYMOUS

#### What does "brain fitness" mean?

- Being alert/sharp
- Keeping your brain active/exercising the brain
- Good mental health/not senile
- Good memory/Ability to remember
- Ability to function normally
- Ability to think/think clearly
- Not suffering from Alzheimer's Disease

#### Brain Science and Aging Research: Past & Current Understandings

- Freud
- Piaget
- Erik Erikson
- *Decade of the Brain* by President George Bush, Sr.

#### Aging Myths

- We as a society concluded that the aging brain was a shrinking, degenerating organ.
  - "Over the hill"
  - "Out to pasture"
  - "Twilight years"
  - "Retired"
  - "Act your age"
  - "You can't teach an old dog new tricks."

## The Good News from Current Research: Brain Plasticity

- Life experiences and activities that challenge our minds result in continuing positive changes in the brain in two important ways:
  1. New synapses or contact points between brain cells are created by activities that are mentally stimulating;
  2. Second, and most significant, new brain cells form in response to behavioral challenge and new life experiences throughout our lives, a process once thought to stop at age three. (Brain Plasticity)

## An Energized Brain

### Nerve Network of the Brain

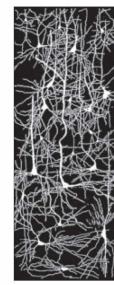
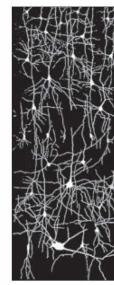
NEURON  
Nerve cells found in the brain

DENDRITES  
Branches at the end of the nerve cell which connect to the next nerve cell

SYNAPSE  
A very small space between nerve cells

NEUROTRANSMITTERS  
Chemicals which carry messages across the synapse to the next nerve cell

ACETYLCHOLINE  
The most important neurotransmitter affecting memory



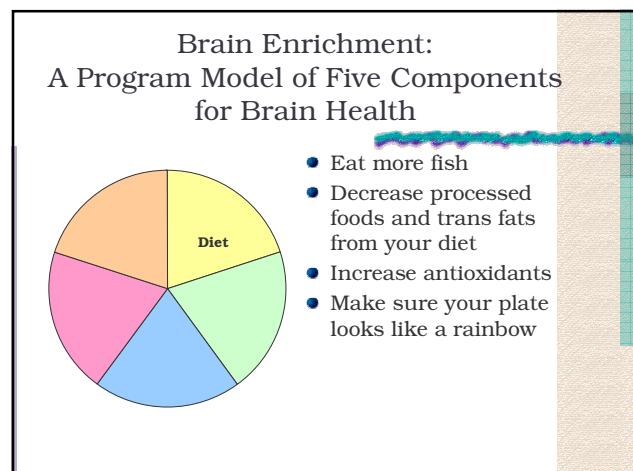
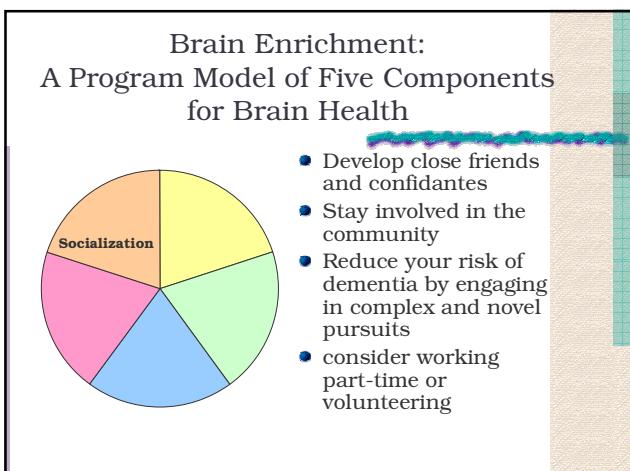
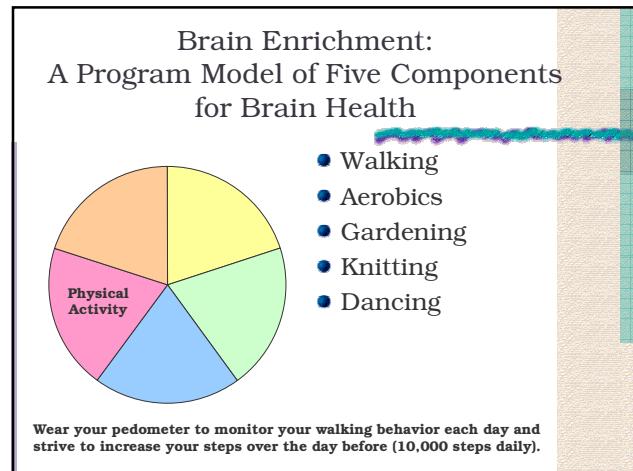
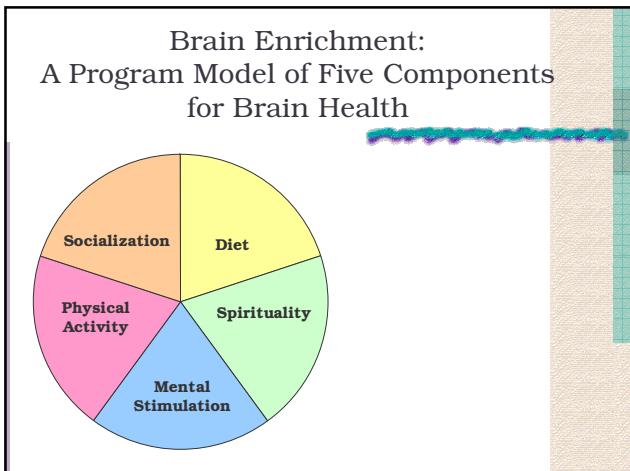
NEURONAL NETWORK  
after intellectual stimulation

## Pathways to Mental Fitness

- Use it or lose it!
- Breaking a mental sweat
- Frequency, intensity and variety of activities
- Brains need to work out as much as our hearts, lungs and muscles

## Brain Enrichment: A Program Model of Five Components for Brain Health

- Reducing our risk of dementia
- Begin early in life
- Encouraged by our society throughout life (birth to death)
- Five components



### Brain Enrichment: A Program Model of Five Components for Brain Health



- Pray daily for enhanced immune system, reduce hospital stays
- Learn how to meditate
- Get enough rest

### Brain Enrichment: A Program Model of Five Components for Brain Health



- Mental Sweat – Make it novel and complex as opposed to routine
- Avoid the lazy brain syndrome. If the brain doesn't care for it, begin doing it
- Learn a language
- Travel
- Limit television

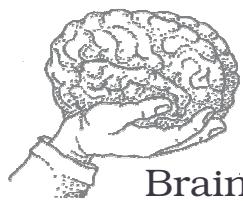
### Brain Enrichment: A Program Model of Five Components for Brain Health



- Assess your brain health pie
- Look over each of the areas of the pie and determine which areas you have weaknesses in.
- Each of these five areas helps to build up brain reserves.
- You will grow new brain cells if you regularly challenge your brain.
- Be proactive, not passive, remember novel and complex.
- Brain fitness is an everyday responsibility.

### Brain Fitness Activities

- Mental Stimulation Exercises
  - Let's try some!



## Brain Health

*"The principal myth about aging concerns the brain. It is commonly assumed that your brain power diminishes with age, but like other dimensions of existence, most of the decline is not due to aging; it is intellectual flab. Like a leg in a cast, when unused the brain deteriorates."*

— *Dare to be 100: Take 99 Steps to 100*, by Walter M. Bortz II, MD