



F l e x i b l e b r a i n s

# The Brain

In WA, mental health disorders currently account for around 16% of the total burden of disease and by 2016 are expected to have moved from the third to the second highest cause of disease burden.

In 2003–04, mental health disorders resulted in 24,453 hospitalisations in WA.

# The Brain

**There is a battle for our mind.**

**Advertising.**

**Governments.**

**Athletics.**

2010 AFL GRAND FINAL

REPLAY SPECIAL EDITION



# The West Australian

## 2 FOR 1 SHOW RIDES

Special offer P64



## 5 MONTHS PREGNANT ON THE CATWALK

Miranda Kerr picture P3

## ESSENTIAL EUROPE TIPS

Travel liftout



## CAN THE DOLLAR REALLY HIT \$US1?

P13



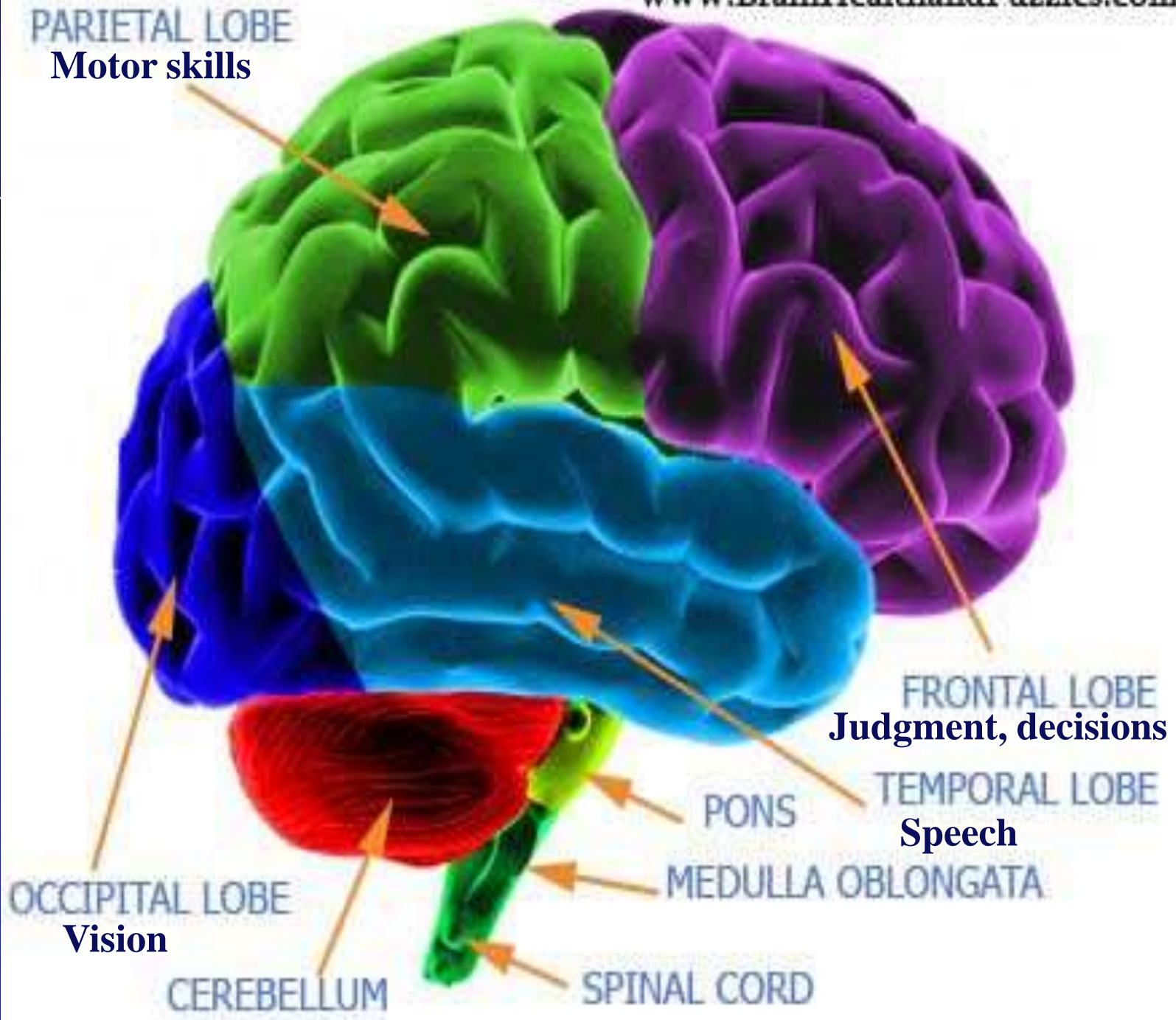
# MIND GAMES

# The Brain

Most religions believe in a struggle between good and evil. A mind game.

Apostle Paul

**"When I want to do good I don't; and when I try not to do wrong, I do it anyway"** . ROM 7:19 LB



# The Brain

## FRONTAL LOBE

Man	33%
Chimpanzee	17%
Dog	7%
Cat	4% (3.5%)

# The Brain

## FRONTAL LOBE

“Come now, and let us reason together, says the Lord; though your sins be as scarlet, they shall be as white as snow; though they be red like crimson, they shall be as wool” Isa 1:18

# Brain affected by:

## **1. DRUGS**

Prescription

Non prescription

## **2. CAFFEINE**

## **3. NICOTINE**

## **4. LACK OF SLEEP**

## **5. SICKNESS**

# Brain affected by:

## 6. ALCOHOL

Passes blood/brain barrier

Affects first the frontal lobe – judgment, reasoning

Violence and antisocial behaviour

Complete abstinence

## 7. DIET

Mayo Clinic

Californian prisons

### i. FAT

Good fat - Omega 3. Nuts, flax seed, leafy greens.

Bad fats – saturated (animal fats) and trans.

# Brain affected by:

## 7. DIET

### I. FAT

### ii. ANTIOXIDANTS

Per gram of tissue, the brain produces more free radicals than any other organ — these are highly reactive molecules that can contribute to cell damage .

Antioxidants in fruit & veg. remove free radicals.

People who eat lots of fruit & veg. less likely to suffer dementia in later life.

# Brain affected by:

## 7. DIET

### I. FAT

### II. ANTIOXIDANTS

### iii. B VITAMINS

**Vit. B1, B6, B12, B9(folate) essential for a healthy brain. Where are they found? Except for B12 in whole grain cereals & veg. B12 - microbes make it but you get it in animal sources (made by microbes in the rumen for example). From fortified soya milk, a tablet or an injection.**

# Brain affected by:

## 7. DIET

I. FAT

II. ANTIOXIDANTS

III. B VITAMINS

iv. VITAMIN D

**D as in dementia and depression.**

**Elderly with low vit. D more likely to be depressed.**

# Frontal lobe affected by:

## 7. DIET

### I. FAT

### II. ANTIOXIDANTS

### III. B VITAMINS

### IV. VITAMIN D

### V. CARBOHYDRATES & PHYTONUTRIENTS

The brain needs sugar (glucose) for energy, a nice, steady, natural supply — as found in fruits, cereals and veggies — not refined sugars in processed foods, drinks & sweets.

# Frontal lobe affected by:

## v. CARBOHYDRATES & PHYTONUTRIENTS

Slowly released carbohydrates from whole, unprocessed plant foods also help keep our serotonin levels even which keeps us (and our moods!) balanced.

**Brain affected by:**

**8. WATER**

# Brain affected by:

## 9. STRESS

Can have heavy toll on brain.

How we deal with stress more important than how much we have.

### Controlling stress

#### Prayer/meditation

Experienced meditator's brains were thicker in areas of the brain charged with interpreting emotions, sights, sounds and touch than those who never meditate.

# Brain affected by:

## 10. EXERCISE

**Physical exercise.** Increases brain function, memory retention and other key areas of cognition up to 20 percent.

**Mental exercise.** Use it or lose!

# Flexible brains

*“The brain that changes itself”*. Dr Norman Doidge

Not all genetics

The brain is a living dynamic structure that changes its very structure with each activity performed, perfecting its circuits so it is better suited to the task at hand. If a part fails then another part or route can sometimes be used.

**“neuroplasticity”**

*neuro* for neuron

*plasticity* for changeable or modifiable.

# Flexible brains

**It has been shown that children are not always stuck with the mental abilities they are born with and that the damaged brain can often reorganise itself.**

**One study has even shown that thinking, learning, and acting can turn our genes on or off thus shaping our brain and behaviour. Yes rewiring our brains with our thoughts.**

# Flexible brains

**“Now we know there are things you can do to add more wires” to the brain.** Dr Thomas Perls, professor of medicine and geriatrics at the Boston University School of Medicine

**“We have more control than we think” on brain health.** Dr Gary Small, director of the Memory and Ageing Research at the University of California, Los Angeles.

Dr. Small estimates that only about one-third of what determines brain health comes from genetics, and that factors such as diet, exercise and stress management have a major impact.

# Flexible brains

**Dr. Doidge points out in his book there is a negative side to neuroplasticity. It also renders our brains vulnerable to outside influences and to altered behaviours and produce some of our most stubborn habits and disorders. Once these changes occur in the brain and become established they can prevent other changes occurring.**



# Apple iChild

Mobile phones, 3-D television and thousands of hours at the computer may be changing the way young brains work, reports Medical Editor **Cathy O'Leary**

**I**t has been guesstimated that by the time today's five-year-olds turn 25, they will have spent something like 30,000 hours watching the internet and video games or images.

And that doesn't even touch on the time spent on mobile phones and watching television, and whatever else whizzbang technology is invented in the meantime.

So not surprisingly, some health experts are questioning how the avalanche of information and entertainment technology is already changing the way our brains work — the way we think and react.

Is the constant use of the internet, video games and the growing

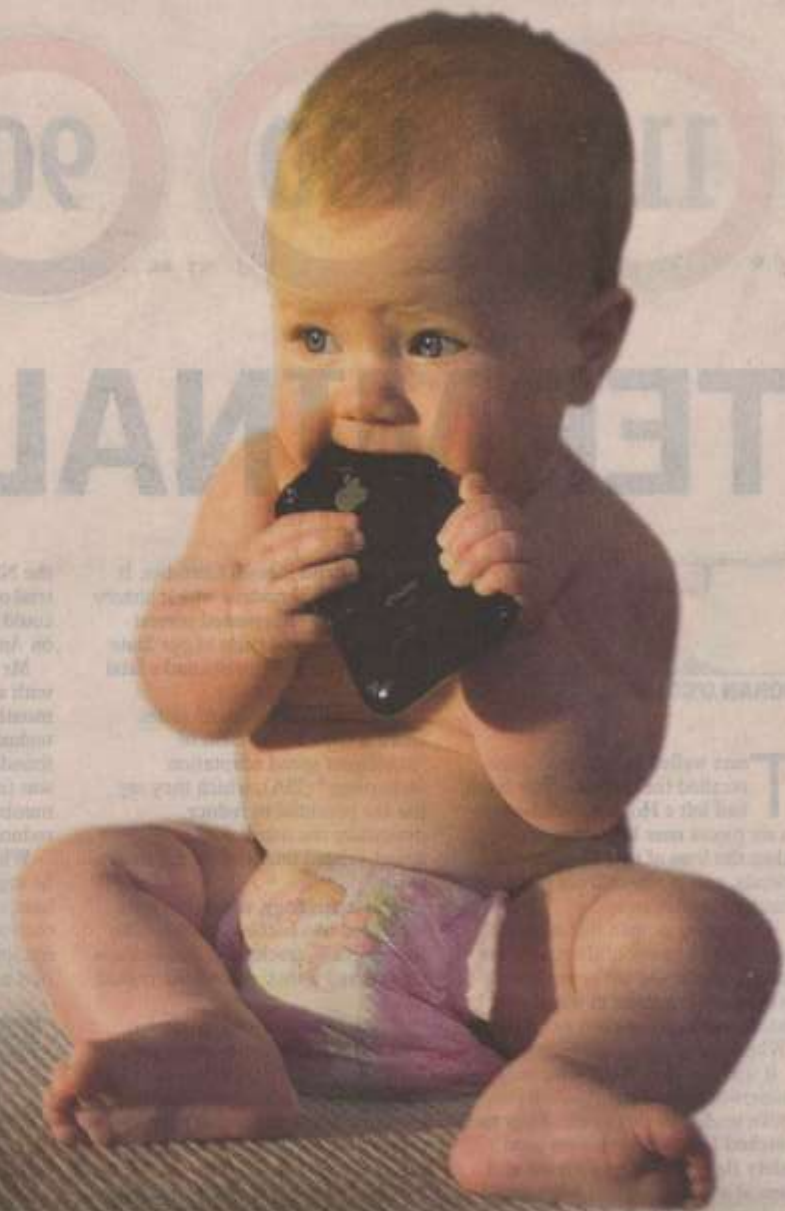
popular demand," she said last week.

"We are pleased that some retailers are taking the lead by displaying signs which outline health concerns linked to 3-D TVs, such as a potential risk for young children, mums-to-be and people with epilepsy

"Advice from one leading manufacturer includes avoiding watching 3-D TVs under fluorescent lighting or in direct sunlight."

Sony TV is releasing its take on the 3-D TV later this year and will have its own health warnings.

They are tipped to include advice that parents consult a doctor before allowing children under the age of



# Flexible brains

**EXERCISE BRAIN**

**GIVE IT NEW CHALLENGES**

**GUARD WHAT WE PUT INTO IT**

**CONTROL WHAT WE THINK**

# Flexible brains

Paul tells us how to wire our brain the right way  
**“Finally, whatever is true, whatever is noble,  
whatever is pure, whatever is lovely, whatever is  
admirable –if anything is excellent or praiseworthy  
– think about such things”** Philippians 4: 8.