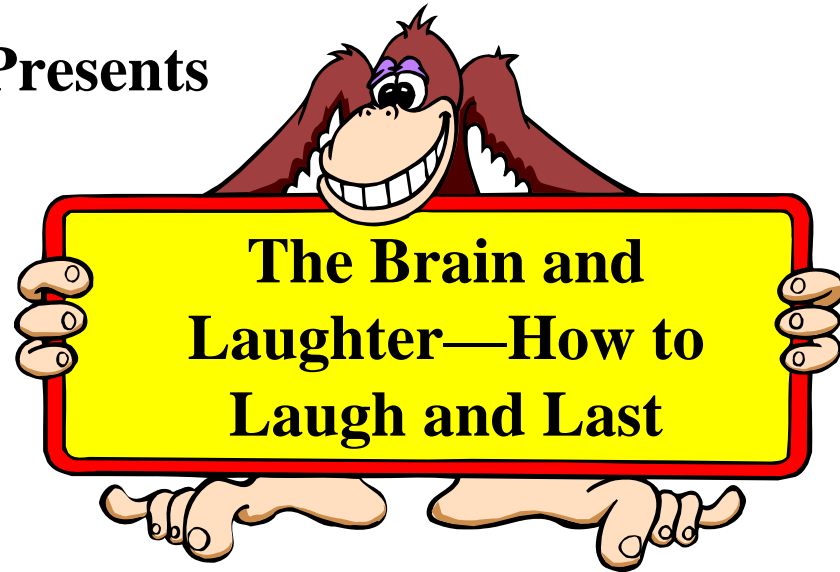


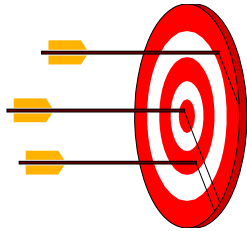


Presents



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Brain References**

**Always laugh when you can;
it is cheap medicine.
—Lord Byron**

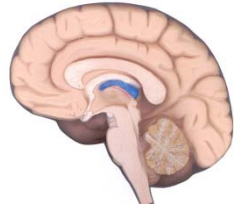


My Goals

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- **Research from the field of Geletology – the study of laughter on the brain and immune system**
- ✓ **Takes whole brain to appreciate a joke fully – each side understands humor in different ways**
- **Obtain the myriad benefits that can accrue from laughter**





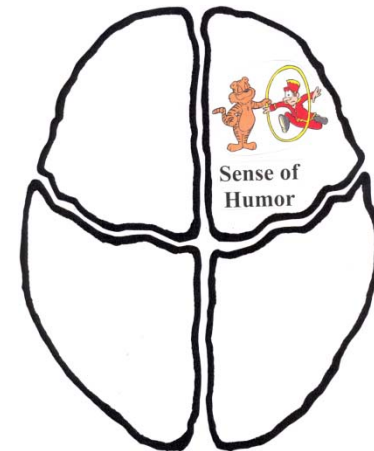
Humor

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Humor is a mental faculty in the right frontal lobe – typically learned in your family-of-origin

It may be appreciated with or without laughter -- subjective

Humor can be used to trigger laughter, which then provides specific benefits to both the brain and body





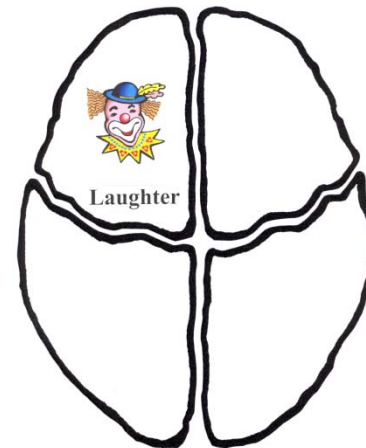
Laughter

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Laughter is a sound that comes from Broca's area in the left frontal lobe

Mirthful laughter provides many benefits to the brain and immune system

It can be triggered by a sense of humor, laughter of others, surprise, fright, emotion, personal choice ...





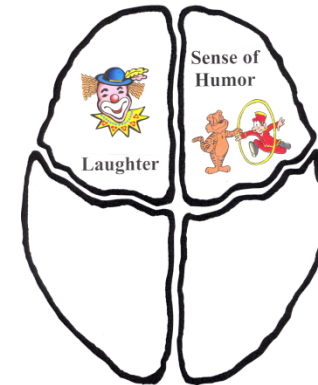
$\frac{1}{2}$ Plus $\frac{1}{2}$ = a Whole

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The left hemisphere is quite literal in its interpretations of the joke

Is especially drawn to wordplay (e.g., the bigger the summer vacation, the harder the fall).

It creates the sense of amusement and so is quite happy to laugh at more or less anything when prompted





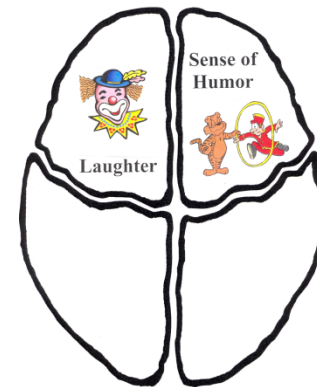
$\frac{1}{2}$ Plus $\frac{1}{2}$ = Whole, Cont'd

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The right hemisphere is more alert to subtleties and nuances

It gets the joke by registering the dislocation in logic that is a hallmark of most formal humor

Meaning emerges from pulling together the threads of the joke, including context, assumptions, and knowledge of personal prejudices



1 - Is Good Medicine

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Triggers release of endorphins:

- **Increase activity of natural killer cells that fight disease from colds to cancer**
- **Increase tolerance to pain**

Increases the level of IgA in the saliva:

- **Physiological effects of viewing a 60-minute humorous video lasted 12-24 hrs**

2 – Helps Manage Stress

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Decreases cortisol levels and liberates interleukin-2 (immune system messengers)

Relieves muscle tension and psychological stress (keeps brain alert, improves creativity and problem-solving, and is a social lubricant)



Stimulates and connects the hemispheres (acute stress tends to disconnect hemispheres) – this enhances learning and promotes retention of information



3 – Speeds Metabolism

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A vigorous laugh burns as many calories per hour as brisk walking or cycling

100 laughs is = to 10 minutes of hard rowing

10-15 minutes of laughter per day can burn up to 50 calories (e.g., amount in medium chocolate bar) that is = to 4.4 pounds a year

Shakes up major body organs, provides a form of “internal jogging”

4 – Benefits the C-V Systems

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Increases rate and depth of inspiration, helps oxygenate cells and clear mucus from the lungs



Increases circulation of the blood; can temporarily decrease and stabilize blood pressure; decreases the risk of hypertension, heart attack, and stroke

20 seconds of belly laughter can double heart rate for 3-5 minutes (e.g., gives the heart the same workout as 3 minutes of hard rowing)

5 – Enhances Work Success

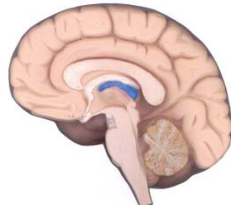
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Employees who laugh together “stay together;” work better as a team, are more creative, and produce more work



Outstanding leaders use humor often to reduce stress, enhance brain abilities, and positively impact their interactions

Business woman who can interact easily with male humor are a step ahead of women who don't



6 - Misc Benefits

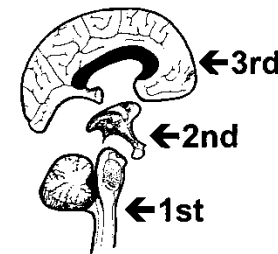
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Enhances digestion – releases enzymes that protect against stomach ulcers and serve as natural laxatives

Increases levels of dopamine and serotonin (can help to moderate depression)

Integrates functions of the pain-Pleasure Center (2nd brain layer) with the frontal lobes (3rd layer)



7 - Misc Benefits

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Boosts levels of the human growth hormone

Can heal on an emotional level and help create a sense of closeness – difficult to hold onto anger or hurt while engaged in mirthful laughter

Promotes more comfortable sleep – Dr. Norman Cousins reported that 10 minutes of belly laughter gave him two hours of pain-free sleep, when morphine had failed!

Laugh! By Choice!

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Recall a time when you doubled over with laughter; laugh at the memory, and similar brain chemicals will be released again -- fake it 'till you make it

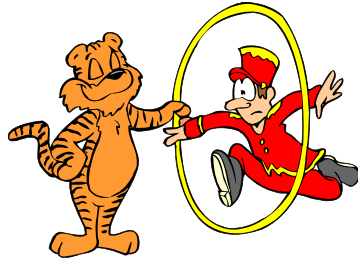
It requires 15 facial muscles contracting in a specific pattern to laugh – it takes 26 muscles to frown (avoid the extra work!)

How Much Is Enough?

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- **Adults need a minimum of 30 laughs per day – adults in the USA average only 15-20**
- **Very happy people average between 100 and 400 laughs per day**





Self Inventory

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Do you look for the humor in everyday life and use it to trigger laughter?

Do you laugh at yourself on a regular basis along with the vagaries of life?

Do you hang out with happy people who smile and laugh frequently?

Inventory, Cont'd

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Are you an only or eldest child who appreciates humor intellectually but who rarely belly-laughs?

When were you last in trouble for laughing?

Are you someone others would select as a friend because you smile and laugh often?



Sample Affirmation

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I am serious about life – yet avoid taking things too seriously

I look for the humor in every situation – and smile and laugh at every opportunity

I hang out with happy people

Each day I share the gift of laughter with myself and with others

Life is good and my health is excellent!