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Music in Exercise, Balance, and Health

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Department of Physical Therapy



Stay Home Solutions for Seniors



New Wichita ALS Clinic

For information
about the
Wichita ALS
Clinic, call
(316) 612-0183



ALS
ASSOCIATION
Mid-America
Chapter



Music assists with Movement

- Music and the Brain
- Exercise
- Balance and Fall Prevention
- Music in Physical Therapy
- Pain relief



Your Brain on Music

Music and the brain

Playing and listening to music works several areas of the brain

Corpus callosum:

Connects both sides of the brain

Motor cortex:

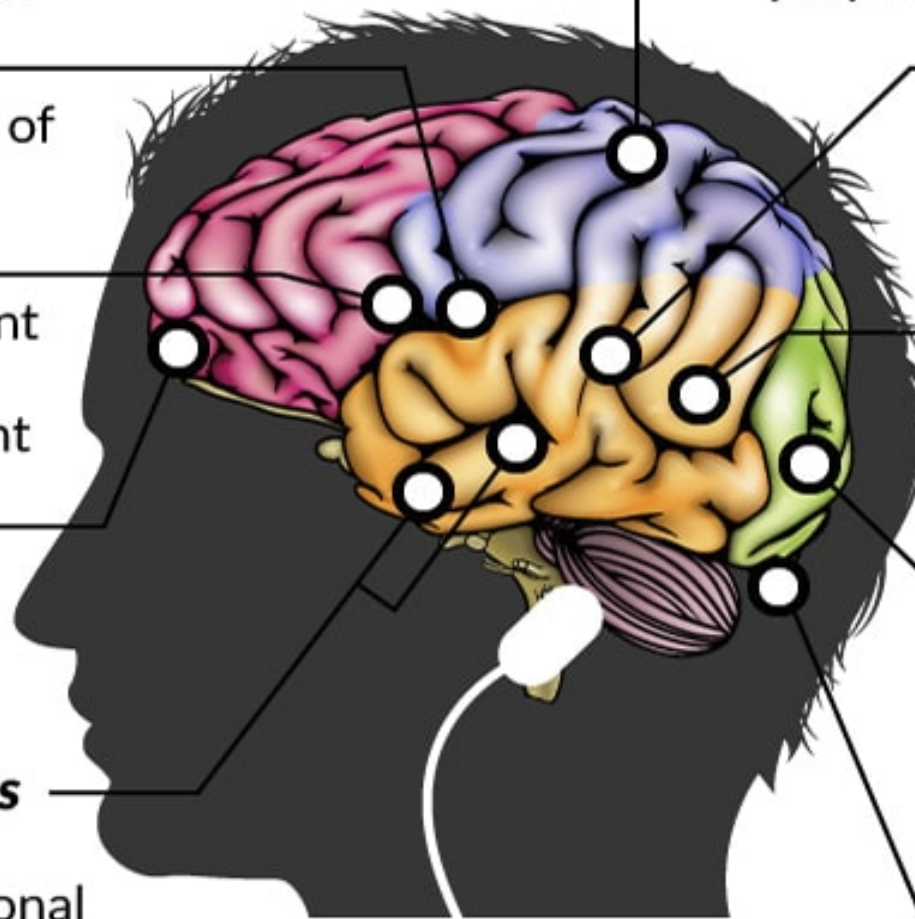
Involved in movement while dancing or playing an instrument

Prefrontal cortex:

Controls behavior, expression and decision-making

Nucleus accumbens and amygdala:

Involved with emotional reactions to music



Sensory Cortex:
Controls tactile feedback while playing instruments or dancing

Auditory cortex:

Listens to sounds; perceives and analyzes tones

Hippocampus:

Involved in music memories, experiences and context

Visual Cortex:

Involved in reading music or looking at your own dance moves

Cerebellum:

Involved in movement while dancing or playing an instrument, as well as emotional reactions

Exercise

Exercise and Music

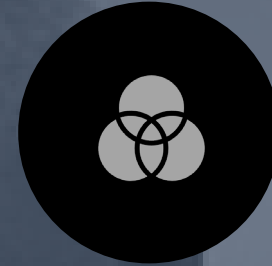
- Increased heart rate or decreased heart rate
(Dainow, 1977, White, 1999)
 - Hype music
- Strength (Pearce, 1981)
- Emotions



Balance and Fall Prevention



Normal Body Posture
Even weight distribution



“Balance Strategies”
Keep you upright

Balance includes

- Vision
- Sensation
- Vestibular

- CDC STEADI

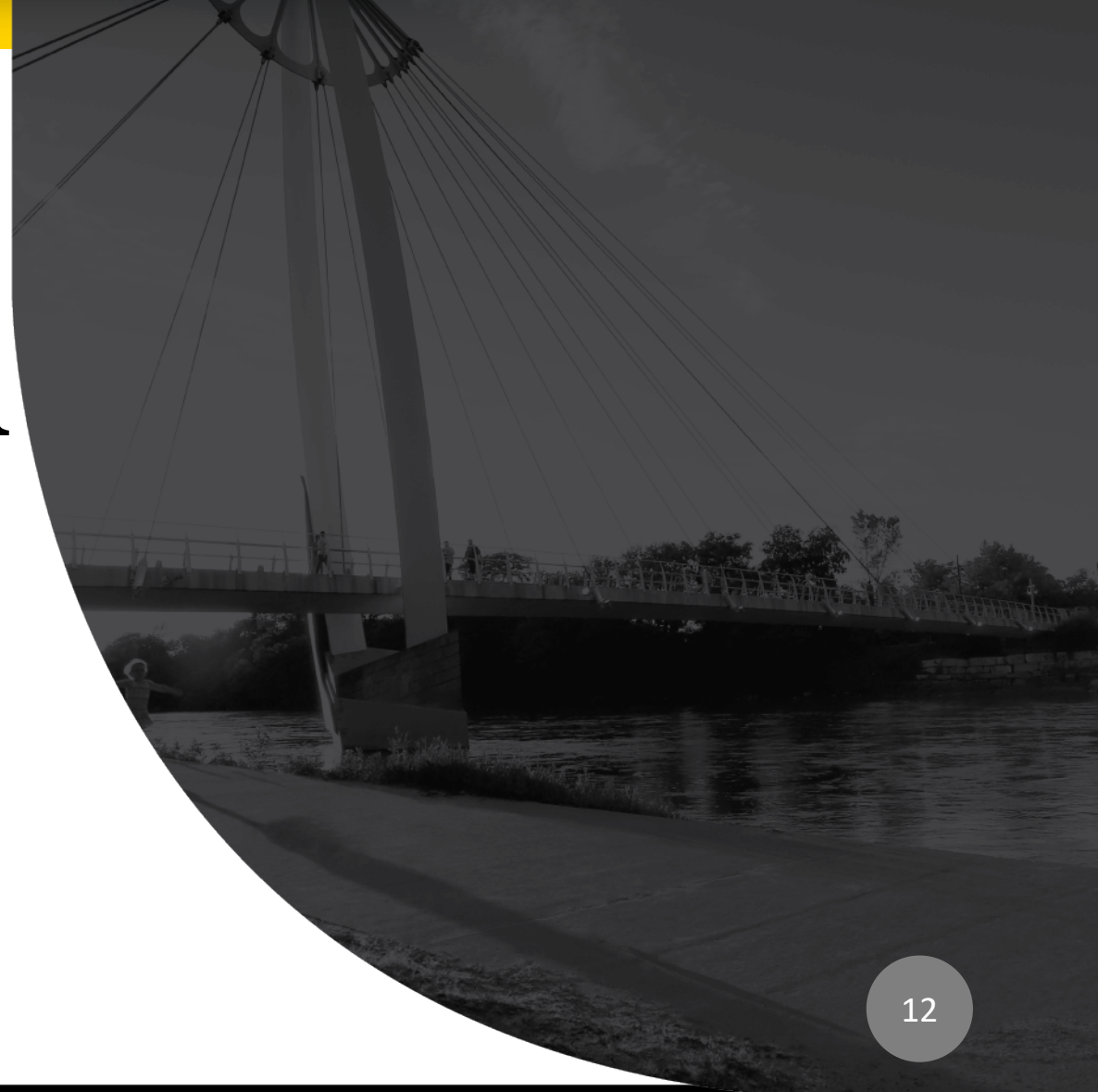
- Pay attention to your surroundings
- Appropriate lighting, especially at night
- Wear non skid shoes, slippers



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Be SAFE!

Music in Physical Therapy



Music in Rehab: Rhythmic Auditory Stimulation-RAS



*Parkinson's Foundation

*Thaut, et al. 2010

*Suh et al. 2014



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What pain?

- Music => Endorphins!
(Holden, 2013)

'Pain lets you know you are still
alive.'

Man, I feel so, so, so Alive right
now.

Making Invisible
Disabilities Visible
someecards
user card



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Move to the Music

- Not motivated to exercise or walk?
 - Listen to an uptempo song
- Need help to relax, unwind
 - Music can help with that too!
- In pain?
 - Hum/Sing/Dance
- Dance safely
 - Standing or sitting





Thank You!



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Questions?

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