



# SCIENTIFIC BENEFITS OF BABY SWIMMING

# SAFER AROUND WATER



- 2009 Dr. Ruth Brenner conducted research at the NIH to investigate the connection between swimming lessons & drowning.
- Their conclusion: participation in swim lessons provided 88% reduction in risk of drowning for ages 1-4
- Dr. Yang's research in rural China found 40% reduction in drowning in open water

# DEVELOPS THE WHOLE CHILD

- Scientific studies at the German Sports College showed that baby swim lessons accelerated a child's development mentally, physically and emotionally
- The swimmers were stronger and more coordinated . . .
- They scored higher for intelligence & problem solving
- Emotionally, they had more self-discipline & greater self-control
- Rated higher for independence, feeling comfortable in a social situation & self esteem



# IMPROVES BALANCE AND COORDINATION



- 2009 at the Norwegian University of Science and Technology, Dr Sigmundsson reported that baby swimmers developed better balance, movement & grasping skills
- The difference persisted until the children were 5 years old
- At age of five, the swimmers still out performed their peers in balance, movement and grasping skills.

# ACCELERATES COGNITIVE DEVELOPMENT

- 2009 Griffith University conducted a 4 year research project with over 45 swim schools
- Preliminary results for children under 5, formal swim lessons accelerated in their physical and mental development. . .
- Some marginal benefits in social development & language acquisition





# STATISTICALLY HIGHER IQ's

- 2011 research in Melbourne AU reported that children who were taught to swim by 5 years, had statistically higher IQs
- They strengthened their muscles more rapidly than children playing on the floor
- In swimming, they used ALL of their muscles while playing on the floor they only used certain muscles



# NEW NERVE PATHWAYS

- When a child moves or interacts with his world, the impulses flowing through his neurons stimulate the nerve fibers to grow branches and twigs that reach out to other neurons.
- When these experiences are repeated new neural pathways are created
- These new nerve pathways set down intricate neural networks that direct a child's higher level brain development



# INCREASES MEMORY CAPACITY



- Studies show the amount of movement a person engages in affects the size and memory capacity of the hippocampus
- Dr Art Kramer's at University of Illinois & Pittsburgh analyzed the hippocampi of 165 subjects and found that higher fit people have larger hippocampi and . . .
- More tissue in hippocampus equates with a better memory



# EXPANDS CEREBRAL COMMUNICATION

- Bilateral cross patterning movements like swimming develop more nerve fibers in the corpus callosum (200 mil fibers)
- It facilitates communication, feedback & modulation from one side of the brain to the other
- Cross patterning movements activate both hemispheres & all 4 lobes of brain simultaneously, thus heightening cognition and increasing the ease of learning



# STRENGTHENS SELF CONFIDENCE



- Liselott Diem's study reported that babies who had swim lessons from age 2m - 4yrs were, more independent, adapted better to new situations, had greater self confidence
- In swim class a child learns to cooperate in a social structure
- To take turns, share, cooperate
- This sense of belonging builds self esteem and strengthens social confidence

# ENHANCES TACTILE STIMULATION

- Swimming is very tactile because of the resistance of the water over child's entire body
- Water has 600-700 times the resistance of air, encouraging neurological development
- Tactile stimulation is important for overall neural organization
- Dr Ruth Rice found that tactile & vestibular stimulation accelerated infants' weight gain, cognitive & neurological development



# DEEPENS PARENT/INFANT BOND



- The tactile resistance of the water establishes a deeper emotional parent/infant bond
- The skin is the largest organ in the body. It is the boundary of self and contributes greatly to our sense of awareness.
- The tactile system is a primal source of comfort & security
- Touching provides emotional nourishment that gives the child a feeling of attachment, commitment & connection.