10 Weeks Post Op

She loves to jump and play hopscotch in rehab at ChildServe during her physical therapy sessions.

She has been inpatient for so long, that she has learned how to take her own vitals every day.

July 3rd
Going Home!!

3 Months Post Op

Yale welcomes her home for the 4th of July!

Outpatient therapy starts back up. Hippotherapy at Timber Creek for Speech Therapy

In the hydro therapy pool for physical therapy at Timber Creek

Outpatient Occupational Therapy

Vision Therapy

Regular Glasses

Special glasses for vision therapy

Dance Camp 4 Months Post Op

First Day of School Kindergarten
4 ½ Months Post Op

6 Month Post Op Appointments at UCLA

12 Months Post Op

UCLA Newsroom

ABOUT UCLA FOR JOURNALISTS MASTHEAD

HEALTH + BEHAVIOR

Study looks at major advances in pediatric epilepsy surgery at UCLA over two decades

Amy Albin | May 16, 2010

By the age of 5, Rachel, who lives on a farm near a small town in Iowa, had been struggling with seizures brought on by intractable epilepsy for nearly three years.

During these episodes, her body would jerk and shake and then go limp. Her lips would turn blue, her breathing would become shallow and her eyes would move rapidly back and forth. Afterward, she couldn't walk, was temporarily disoriented and confused, and suffered short-term memory loss.

As Rachel's seizures became worse and she continued to lose strength on her left side, imaging tests showed that her brain's right hemisphere was atrophying. Seizure medications failed to work, and her parents felt like they were losing her — both cognitively and physically.

Ultimately, Rachel underwent a dramatic surgery at UCLA called a cerebral hemispherectomy, in which half of her brain was removed in the hopes of stopping the seizures and improving her cognitive development.

More Health + Behavior

Protein that activates immune response harms body's ability to fight HIV

With $8.6 million grant from NIH, UCLA-led consortium will map the heart's nervous system

Study provides roadmap to more personalized cancer treatment

http://newsroom.ucla.edu/releases/study-finds-brain-surgery-for-158609 [5]

Sledding is so much fun when you are not having seizures.

13 Months Post Op

Benik Soft hand splint
Neoprene sports band for glasses

Astronaut Training [6]

Astronaut Training

Astronaut training is a sensory integrative protocol that is specifically designed to stimulate and integrate the vestibular, auditory and visual systems. The protocol should only be implemented by a trained clinician with fundamental understanding in sensory integration. It can then be carried out by a parent/caregiver or member of the classroom staff, once trained.

"The vestibular system teams up with the auditory and visual systems to perform many important tasks by helping us understand the three-dimensional space, or spatial envelope, that surrounds us wherever we go. Through the proper functioning of our vestibular-auditory-visual triad, the sights and sounds of our world become meaningful and entice us to move, explore, and engage with objects, people, and events.

The vestibular system provides a perception of orientation in space that must be activated by the musculo-skeletal system. It is our internal guidance instrument working to tie the body's senses, such as proprioception and touch, together with the visual and auditory senses. Each component of the vestibular-auditory-visual triad makes a unique contribution to our ability to be meaningfully occupied while maintaining our orientation in space under all conditions.

The dynamic interaction between the members of the vestibular-auditory-visual triad provides the backdrop for virtually everything we do, and thus determines much about the quality of our lives."

(Astronaut Training: A Sound Activated Vestibular-Visual Protocol for Moving, Looking and Listening; Kawar, Frick & Frick, 2005)

13 Months Post Op

Using weak arm. Sensory incentive petting dog.

14 Months Post Op

Bioness: FDA Approved Medical Device for Foot Drop. Demo Left Leg.

Bioness: Wireless Hand Rehabilitation System. Approved by FDA. Demo Left Arm.

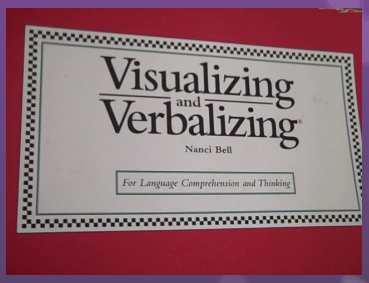
16 Months Post Op

Dance lessons

20 months post op

Putting on coat with one hand first during therapy sessions, then at home. Learning how to zip coat.

22 Months Post Op



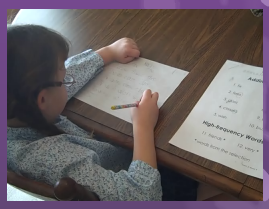
22 Months Post Op

Brushing teeth with one hand.

22 Months Post Op

Reading a book and flash cards.

22 Months Post Op



Doing a math worksheet and spelling words.

23 Months Post Op

Learning how to walk up and down stairs during therapy sessions, then at home.

Posthemispherectomy hydrocephalus: Results of a comprehensive, multiinstitutional review [7]

Epilepsia
Official Journal of the International League Against Epilepsy

FULL-LENGTH ORIGINAL RESEARCH

Posthemispherectomy hydrocephalus: Results of a comprehensive, multiinstitutional review

Sean M. Lew, Anne E. Matthews, Adam L. Hartman, Neil Haranhalli, on behalf of the Post-Hemispherectomy Hydrocephalus Workgroup

First published: 25 October 2012 Full publication history

DOI: 10.1111/epi.12010 View/save citation

Cited by: 16 articles Citation tools

Address correspondence to Sean M. Lew, Department of Neurosurgery, Medical College of Wisconsin, 999 N 92nd St, Suite 310, Milwaukee, WI 53226, U.S.A. E-mail: slew@mcw.edu

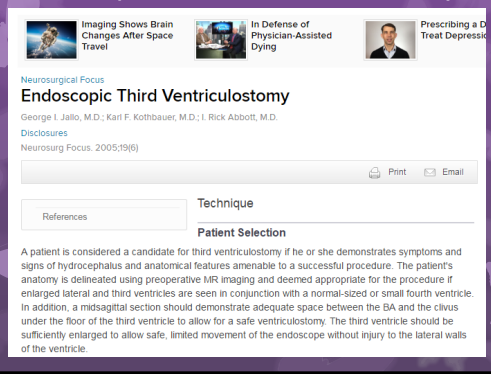
Summary

Purpose: Hemispherectomy surgery for medically intractable epilepsy is known to cause hydrocephalus in a subset of patients. Existing data regarding the incidence of, and risk factors for, developing posthemispherectomy hydrocephalus have been limited by the relatively small number of cases performed by any single center. Our goal was to better understand this phenomenon and to identify risk factors that may predispose patients to developing hydrocephalus after hemispherectomy surgery.

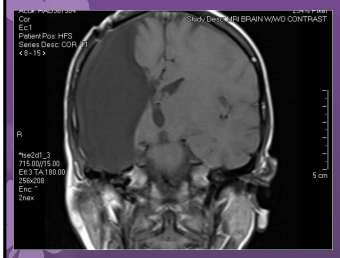
Methods: Fifteen pediatric epilepsy centers participated in this study. A retrospective chart review was performed on all available patients who had hemispherectomy surgery. Data collected included surgical techniques, etiology of seizures, prior brain surgery, symptoms and signs of hydrocephalus, timing of shunt placement, and basic demographics.

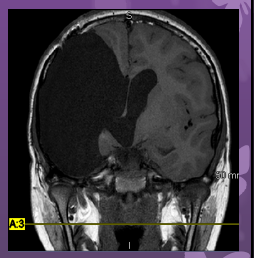
Key Findings: Data were collected from 736 patients who underwent hemispherectomy surgery between 1986 and 2011. Forty-six patients had preexisting shunted hydrocephalus and were

Endoscopic Third Ventriculostomy [8]



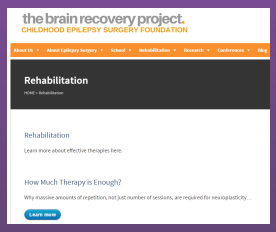
Asymptomatic Hydrocephalus





2nd Brain Surgery – January 2016

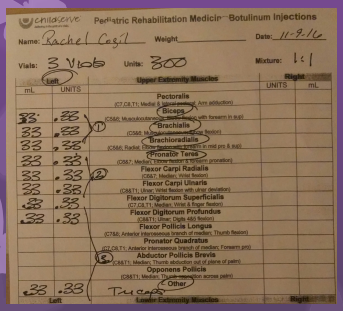
How Much Therapy is Enough?

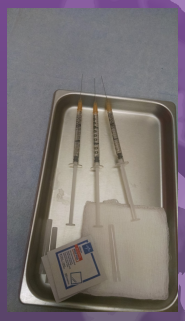


Massive amounts of repetition, not just number of sessions are required for neuroplasticity." [9]

"The evidence across animal and human literature suggests that the number is in the **hundreds** for upper extremity work and in the **thousands** for gait steps." [9]

Botox for Spasticity





Talent in Iowa Miss Amazing Pageant

Feb. 2013: 4 years post op Feb. 2017: 8 years post op

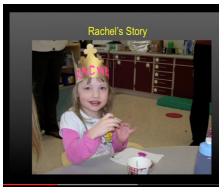
Therapy replaced with: 4-H, Student Council, Dance, Bowling, Basketball, Soccer and Cheer



The Brain Recovery Project Current and Completed Research [10]

- **CURRENT RESEARCH**
  - Robotics-Assisted Therapy In A Camp-Like Environment
  - Higher Cognitive Function In Adults After Childhood Hemispherectomy
  - Central Auditory Processing After Hemispherectomy
- **COMPLETED RESEARCH**
  - Hand-Arm Bimanual Intensive Training
  - Complex Syntax In The Isolated Right Hemisphere: Receptive Grammatical Abilities After Cerebral Hemispherectomy
  - When left-hemisphere reading is compromised: Comparing reading ability in participants after left cerebral hemispherectomy and participants with developmental dyslexia
  - Structural Changes Following Hemispherectomy: Voxel-Based Morphometry Analysis
  - Resting State Analyses Of Reading Circuitry In The Isolated Right Hemisphere
  - Neural Basis Of Reading In An English-Spanish Bilingual After Left Cerebral Hemispherectomy

Tedx by Dr. Gary Mathern "What you can do with Half a Brain" [11]



https://www.youtube.com/watch?v=MrKijBx_hAw&feature=youtu.be%3E Starting at 6:26.

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