Vanderbilt Stroke Center: Past, Present, and Future

Howard S. Kirshner, M.D.

Vanderbilt Jobe Bernard 16th Annual Stroke Symposium, November, 2013
Disclosure
Howard S. Kirshner, MD

- No promotional speeches
- Research, NIH sponsored
- No stock ownership, royalties, etc.
Harold S. “Jobe” Bernard
Vanderbilt Stroke Symposium

- 16th Annual Vanderbilt Stroke Symposium, November 7-8, 2013
- 2-day professional event
- 7th public stroke screening and educational event, Saturday, November 9, Vanderbilt MCN Ballroom
Harold S. “Jobe” Bernard
Vanderbilt Stroke Symposium

- Jobe Bernard was a 1941 graduate of Vanderbilt University
- Severe stroke in 1988
- Lived with disability from stroke until 2006
- Ann, Tommy, and Jo Bernard have endowed this symposium to improve public awareness about stroke
Stroke Statistics

- 795,000 strokes a year in the United States
- 1 stroke every 40 seconds
- 11 million “silent strokes”: vascular dementia
- 4th leading cause of death (150,000/y)
- A leading cause of disability
  - Stroke prevalence = 5.8 million
- Epidemiologic high-risk groups:
  - Old > young
  - African American > Latino > Caucasian
  - Men > women
  - Regional: “Stroke Belt”
- Most strokes are preventable


2002:
Additional faculty was hired and named Associate Director of the Stroke Center (Dr. Jason Thurman)

2004:
Additional faculty was hired and named Associate Director of the Stroke Center (Dr. Robert Mericle)

2006:
Additional faculty was hired (Dr. Derek Riebau)

1998:
- Stroke Center was developed with 4 beds dedicated to Stroke on 11S with ECG monitoring and Neuro ICU access
- Director of Stroke Center was named (Dr. Howard Kirshner)
- Fellow (Dr. Jeff Harris)

2001:
Additional faculty was hired (Dr. Anne O’Duffy)

2005:
Received certification from TJC as a Primary Stroke Center

Renovated VUH ED

Initiation of Stroke Pager System
Stroke-Cerebrovascular
Time Line of Vanderbilt’s Program

2007:
- First Stroke Coordinator hired

2008:
- Received recertification from the JC as a Primary Stroke Center
- Selected as the Hub for the State of Tennessee Telemedicine Stroke Pilot (THA)
- 6CCT opened with 34 dedicated Neuro Beds
- AHA Get with the Guidelines, Silver Level
- Additional faculty was hired (Drs. Buddy Connors and Robert Singer)
- Acquired Ceretom Portable Head CT
- Scanner

2008-13
- Hybrid OR serves as base for cerebrovascular procedures
- Lisa Hermann Stroke Neurologist arrives
- Telemedicine Macon
- Focused review

2009:
- Received recertification from JCAHO as a Primary Stroke Center
- AHA Get with the Guidelines, Silver Level
- Additional faculty was hired (Drs. Buddy Connors and Robert Singer)
- Acquired Ceretom Portable Head CT
- Scanner

2010:
- Received recertification from JCAHO as a Primary Stroke Center
- Continued providing Telemedicine at Hardin Medical Center
- AHA Get with the Guidelines, Gold Level
- Initiation of Interventional Stroke Alert Pager System

2011:
- Hybrid OR serves as base for cerebrovascular procedures
- Lisa Hermann Stroke Neurologist arrives
- Telemedicine Macon
- Focused review

2012:
- J Mocco arrives
- Stroke Huddle
- NP Endovascular
- Acute stroke algorithms revised
- Recertification 3/2012
- GWTG Gold Award
- Comprehensive stroke center, 7/13
- GWTG, Gold plus, 2013
- Dr. Mike Froehler arrives
- Stroke Center Network
The Vanderbilt Stroke Center is a leader in the care of patients with cerebrovascular disease. We are a multi-disciplinary team of health care professionals providing compassionate care, participating in innovative clinical research, expanding the horizons with cutting edge technology, and setting the standard for academic excellence. Our commitment is to be a leader in patient and community education and quality patient outcomes in a cost-effective environment.
Core Stroke Team

Howard Kirshner, M.D.,
Medical Director of Stroke Center

R. Jason Thurman, M.D.
Associate Medical Director of Stroke Center

Kiersten Brown Espaillat, APN-BC
Stroke Services Coordinator

J Mocco, M.D.
Associate Medical Director of Stroke Center
Vascular Neurologists

Howard Kirshner, MD, Anne O’Duffy MD, Derek Riebau, MD, Lisa Hermann, MD, Michael Froehler, MD, PhD

Lori Jordan, M.D.
A Multidisciplinary Approach.....
3 interventional neurovascular specialists

J Mocco, M.D.               Mike Froehler, MD, PhD
J. J. Buddy Connors, M.D.
Emergency Medicine
Stroke Focus

- Dedicated Stroke Center Coordinator
- En suite CT scanners
- Designated stroke beds
- CODE STROKE rapid response system

R. Jason Thurman, M.D.
Stroke Team Liaison
NeuroIntensive Care Unit

John A. Barwise, MB, ChB
Director, NeuroICU
The Basic Science Behind Stroke

BethAnn McLaughlin, Ph.D. leads the way in basic science stroke research at VUMC. Her animal research laboratory has an emphasis on ischemic preconditioning, drug development.

BethAnn McLaughlin, Ph.D.
The new NeuroCare Unit (completed 2009) offers state of the art patient rooms, equipment, and staff workspace. 34 spacious rooms for patient/family centered care.
Portable CT Scan Capability

The Ceretom portable CT scanner performs CT at the bedside in the Neurosciences ICU.
The newly renovated ED features these exciting areas of patient care:

- 46 total exam and treatment rooms
- 4 trauma rooms w/ ceiling mounted medical gases
- Family grief room
- 16 acute care rooms
- 2 CT scanners located in the emergency department
• Rapid Response System
• Emergency Dispatch
• Multi-disciplinary Response team

If your patient exhibits one or more of these symptoms, CALL THE ACUTE STROKE TEAM AT 1-1111

Sudden/Unexpected:
• Numbness or weakness of face, arm, or leg, especially on one side of the body.
• Confusion or trouble speaking or understanding speech.
• Trouble seeing in one or both eyes.
• Trouble walking, dizziness, or loss of balance with no apparent cause.

Treatment is more effective if given right away. EVERY MINUTE COUNTS!

Be prepared to state:
• Patient’s name and gender
• Location
• Time symptoms began
• Location of caller
• Name of caller and call back number

Vanderbilt Stroke Center
www.vanderbiltstrokecenter.com
TELESTROKE

Alert Recipient: TELESTROKE

Alert Message: TELESTROKE ALERT: Williamson Medical Center - TN; Dr. Jones @ 615-000-0000 has a 47yom name: Griffith with a CVA onset @ 15:00.
Simple Access to Services

VUH EMC Stroke Transfer Protocol:
Ischemic Stroke/TIA

Ischemic Stroke or TIA

> Call ED Attending

Potential Stroke Alert? *to be determined by ED attending*

- No → Accept to ED
- Yes → Access Center will call the Stroke Attending and connect them to the referring MD
  - Access Center alerts ED CSL to activate stroke alert on arrival if requested by Stroke Attending
Vanderbilt LifeFlight’s Office of Emergency Communications, designated as the EMS Regional Medical Communications Center (RMCC) for the Mid-Cumberland Region by Tennessee Department of Health EMS Officials in 2006.

LifeFlight’s helicopters provide service for a 150 mile radius around Nashville and are stationed in Lebanon, Tullahoma, Clarksville, and Mt. Pleasant, TN.

LifeFlight also operates a fixed wing air ambulance for longer distance transports.
Clinical Neuroscience Institute

- 2013: Top-Ranked Hospitals for Neurology & Neurosurgery
- Vanderbilt is #34
VUMC designated a top hospital 2012, The Leapfrog Group.

VUMC designated a magnet hospital 2006, 2012
Vanderbilt University Medical Center was again selected in 2011 as one of the best places in academia to work

VUMC Named One of the Most Wired Hospitals in 2012
Medical Center Statistics

- >900 Hospital Beds
  - 650 Adult Hospital Beds
  - 250 Pediatric Hospital Beds
    - 34 bed Neuro ICU; 30 bed acute care neuro unit
    - 8 bed Epilepsy Monitoring Unit
    - 4 bed Pediatric EMU
- 870 Faculty Providers
- 1,732,420 Outpatient Visits in FY 2012
- 50,174 Hospital Admissions in FY 2012 (all)
- www.vanderbilthealth.com/clinicalneurosciences
Patient Education

In room educational opportunities:
- EZ TV # 1111  Know Stroke
- EZ TV # 1108  Spotlight on Stroke
- EZ TV # 1679  Stroke: When Minutes Matter

Stroke Center Website

Stroke binder

Stroke Discharge Wizard and Stroke Discharge Letter
Covers risk factors, warning signs, what to do in an acute stroke/TIA, medication reconciliation, follow-up
Annual Employee Combined Heart & Stroke Screening

- Assess height/weight/calculate BMI
- Assess blood pressure
- Assess blood glucose/LDL level
- Calculate stroke risk
- Identify personal risk factors for stroke
- Provide physician/nurse counseling/assessment as needed based on screening results
- 2013 employee stroke screening in February
Public Awareness

What took you a lifetime to learn can be lost in minutes.

A stroke kills 8,494 brain cells every second.

Harold Bernard
10th Annual Vanderbilt Stroke Symposium

Save the Date
November 9th, 2007
7:45 am - 4:30 pm
Vanderbilt Marriott

Body Mass Index
There are several ways to measure your body’s proportion of fat and fat-free tissue. One of these methods, called Body Mass Index or BMI, is an important indicator of overall fitness and is a nationally accepted way to estimate a person’s level of “fatness.” Your BMI is calculated using the following formula:

\[
\text{BMI} = \frac{\text{Weight (lbs)}}{\text{Height (in)}^2} \times 703
\]

Blood Pressure
There are several actions you can take to control, or maybe even prevent, high blood pressure. Because high blood pressure is a common disorder, have your blood pressure checked regularly. Talk with your healthcare provider about how often to schedule a blood pressure check.

Blood Glucose (Diabetes)
Diabetes is a chronic disease that makes the body unable to use carbohydrates properly, causing it to rely too much on protein and fat for fuel. There are two distinct types of diabetes: Type I (Non-insulin producing) and Type II.

Cholesterol
According to the American Heart Association, knowing your total cholesterol level is an important first step to determining your risk for heart disease. Knowing your blood cholesterol levels, and how one type of cholesterol affects the others, give you insight into what health habits you may need to change to lower your risk of heart disease.

For more information or to schedule an appointment, please call (615) 936-0060. www.vanderbiltsstrokecenter.com
Medical Advancements in Stroke Care

Carotid Artery Disease treated by:
1. Medical Management
2. Carotid Endarterectomy
3. Carotid Artery Stenting
Medical Advancements in Stroke Care

Advancements in the treatment of cerebral artery aneurysms:

1. Clipping
2. Coiling/embolization with or without stenting
Vanderbilt Stallworth Rehabilitation Hospital
Stroke Support Group

The VUH Stroke Support Group, in conjunction with Vanderbilt Stallworth Rehabilitation Hospital, offers a month meeting on the 2nd Thursday of every month at 6:30 P.M.

The goal of the stroke support group is to provide a network of support, information, and resources to stroke survivors and their families/friends (320-7600 for information)
Outpatient Stroke Rehabilitation
Pi Beta Phi, Bill Wilkerson Center
9th Floor, MCE

- Outpatient PT, OT, ST
- Augmentative communication devices
- Wheelchair clinic
- Driving evaluations
- Balance center
- Neuropsychology
- Community Aphasia Group
Vanderbilt Stroke Center

- **Stroke prevention**: clinics, screenings, education forums, research

- **Acute stroke treatment**: Stroke Code system, intravenous tPA, interventional procedures, research protocols, telemedicine: approx 500 acute cases/yr

- **Stroke rehabilitation**: Inpatient rehab at Stallworth, outpatient rehab, spasticity treatments; outpatient at Pi Beta Phi

- We try to cover all 3 areas each year
Vanderbilt Stroke Symposium

- Vanderbilt has been a Primary Stroke Center since 2005, Comprehensive 2013
- Vanderbilt Stallworth is a Primary Stroke Rehab Center
- Thanks to all of our speakers and our audience!