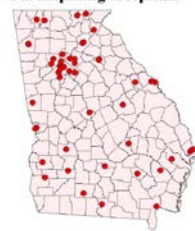




Georgia Coverdell Acute Stroke Registry Quarterly Newsletter

Georgia Coverdell Acute Stroke Registry
Participating Hospitals



SPRING 2013

Coverdell Partners:

Georgia Department
of Public Health
(DPH)

Emory University
School of Medicine

Georgia Medical
Care Foundation
(GMCF)

American Stroke
Association (ASA)

Georgia Hospital
Association (GHA)

If you have
anything you would
like included in an
upcoming
newsletter or have
achieved recent
recognition in the
area of stroke,
contact:

Kerrie Krompf
kkrompf@emory.edu

or

770-380-8998



Congratulations to Our Coverdell "Champion Hospital of the Year" Award Winners!



Putnam General Hospital



South Georgia Medical Center



DeKalb Medical Hillandale



Grady Health System

AND... Our Second Annual "Star Award" Winners



Facility Star Award:
Emory University Hospital Midtown



Individual Star Award:
Kerrin Connelly-Grady

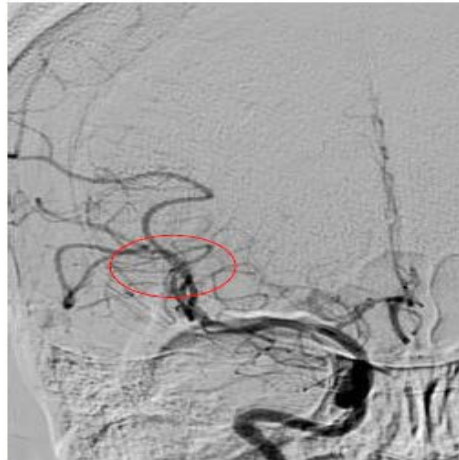
Puckett EMS

*** Stroke Alert: When Minutes Count ***

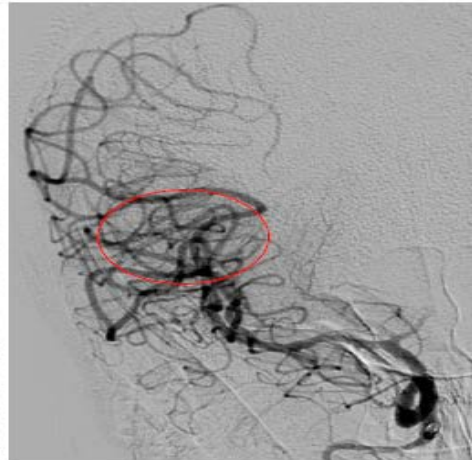
Puckett EMS recently responded to a 911 call of a young female complaining of a sudden loss of coordination. The patient's husband called 911 shortly after she woke up and did not appear to be acting "normal." The call was received at 20:49 and the ambulance was on-scene 6 minutes later. A complete neuro assessment was performed and it was determined that the patient was having a possible stroke. Paramedic Eric Baker and EMT Adam Hodges initiated a field "Stroke Alert." Transport to the hospital began at 21:10 and they arrived at Wellstar Cobb Hospital, a certified stroke facility, at 21:16.

- 39 year-old woman with history of Wolff-Parkinson-White syndrome, who was last known normal at 5:15 pm the night prior, woke up at 8:15 pm with left arm weakness and numbness.
- She was later found slumped over and fell to floor. She was taken to Wellstar Cobb via EMS. She was not given tPA and was worked up for her symptoms.
- She was noted on MRI of the brain to have an infarct in the insular cortex of the right brain and a M2 MCA occlusion on the right side.
- She was transferred via helicopter to Grady Memorial for further evaluation.
- NIHSS = 14 on arrival for 0/5 strength of her left arm, 3/5 of her left leg. Right gaze preference and neglect.
- **Patient was treated with stent retriever and achieved successful reperfusion!**
- **On Day 1 post-procedure the patient's NIHSS = 4. She is expected to make a full recovery!**

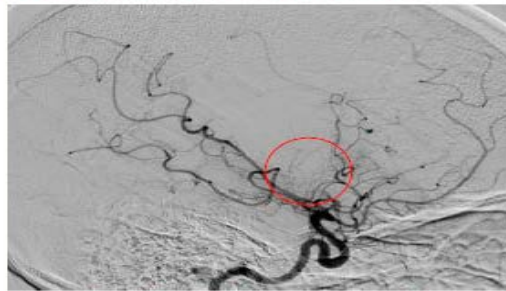
ANGIOGRAPHIC FINDINGS / IMAGES



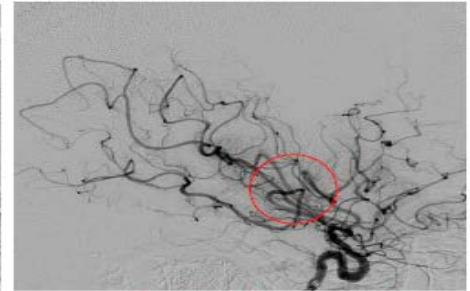
Pre-Treatment Angiogram – AP View



Final Angiogram – AP View



Pre-Treat Angiogram – Lateral



Final Angiogram – Lateral

Submitted by: Jake Lonas, CCEMT-P, GA/CHOA Operations Manager, Puckett EMS

Lessons Learned from Prehospital Recognition of Pediatric Stroke - Thanks to Gold Cross EMS

I will be the first to admit that most of my focus as a stroke coordinator and educator is on adult populations. Most literature I read and education time in the community is aimed at ages 18 and over. Here at Georgia Regents Medical Center we see a small number of pediatric strokes, mostly hemorrhagic. It was not until our stroke team cared for a 12 year-old ischemic stroke patient that I sat back and reconsidered my education and care philosophy. In Augusta we have a great EMS service, Gold Cross Emergency Medical Services. One of the benefits of being a stroke coordinator is working closely with these partners, learning from each other. Paramedic Aenchbacher and EMT Borchik, both of Gold Cross EMS, responded to a call in the early hours of a Saturday morning. The only information given to this crew was that they were responding to a location for an unconscious pediatric patient. When the crew arrived on scene they were informed by the parents that the patient had suffered a headache for several days, came home from school and laid down to nap. When the parents checked-in on the patient early in the morning, they discovered the patient was unable to move his left side and also had left sided facial droop. Paramedic Aenchbacher performed the Cincinnati Pre-Hospital Stroke Scale, which he reported deficits in all three areas of the exam. Quickly recognizing the stroke, the crew loaded the patient and informed our emergency command center of their arrival. Our team met the crew as usual, to immediately assess and treat the patient.

During the history review with the parents, it was discovered that the last known well time for this patient was 5 PM the previous night. The parents also reported that the patient had been suffering from a headache for several days and sleeping more than usual. This patient was outside of the IV tPA window. After endovascular consultation, it was decided that the patient was also outside of this window because of the location of the stroke. The patient was admitted to the pediatric intensive care unit and monitored closely for several days before moving to the pediatric medical floor. The patient is currently working well with therapy, with plans to discharge to a rehab facility. The take-home that I learned from Paramedic Aenchbacher and EMT Borchik is never exclude a patient as a potential stroke based on their age. Stroke affects us all, regardless of age, race, or gender. If this crew did not identify the pediatric stroke in the field, this child would have had several delays in care which could have potentially affected his outcome for the worse. Stroke was recognized and acted upon quickly, even though the patient did not qualify for tPA or endovascular treatments. We started him immediately on intensive post-stroke therapy that will benefit him for the rest of his life. None of this would be possible without the rapid assessment and actions of this crew! This has inspired me to focus education at parents and children. My goal is to spend more time in the schools and communities educating about signs, symptoms, and risk factors of pediatric stroke. I hope you will join me in this effort - lets not leave this patient population out of education opportunities!

Thank you to Gold Cross EMS Paramedic Aenchbacher and EMT Borchik for your rapid assessment, care, and dedication to stroke patients. You have and will continue to make a difference in the Augusta area.

Submitted by: Holly Hula, RN, BSN, CNRN, Stroke Program Coordinator, Georgia Health Sciences Medical Center

Bedside tPA at Floyd Medical Center

Hello all and Happy Spring. At Floyd Medical Center, we have been working hard to improve our commitment toward Door-to-Needle (DTN) time <60minutes. With the help of the wonderful Genentech fairy, Ms. Nancy Mitchell, we have changed our tPA process. We began the process by drilling down our weak areas with our potential tPA patients. Initially, we tried reminding staff, physicians, and ancillaries that we really needed to improve our response times. This helped but did not push us to our goal. Nancy reached out to us and helped us to see that bedside administration of tPA would alleviate all the drill-down efforts and constant calls to ancillaries to pick up the pace. She and our wonderful ECC leadership of Tiffany Kinard, Director, Melissa Parris, PI Coordinator, Cherry Tison, Clinical Manager, and Jennifer Dortch, Clinical Educator, planned a blowout educational project to educate each of our 75 ER nurses on the reason, risk, administration, and benefits of the use of tPA and in a

timely manner. The educational event was very comprehensive, with video, lecture, educational materials, and a number of sessions. Nancy was willing to help our facility to step up our game in the stroke arena. As a result of the hard work by these ladies we have had our first bedside administration resulting in a DTN time of 39 minutes. Kudos to all the hard work of each of you ladies and all of the ER nursing staff that go the extra mile to make our stroke program the best Rome has to offer. We know stroke till there's no stroke!

Submitted by: Debbie Fisher, RN, CRRN, Stroke Coordinator, Floyd Medical Center

South Georgia Medical Center

South Georgia Medical Center (SGMC) was recently certified by the Joint Commission as a Primary Stroke Center. The organization was surveyed by the Joint Commission on February 22, 2013 under the Advanced Disease-Specific Care standards. According to the Joint Commission's Disease-Specific Care Certification manual, the certification program is based on recommendations for Primary Stroke Centers published by the Brain Attack Coalition and American Stroke Association statements for stroke to evaluate a hospital functioning as a Primary Stroke Center.

South Georgia also received the Coverdell Champion Hospital of the Year Award which was presented to them at the February Georgia Stroke Professional Alliance meeting. This award is given to one hospital annually in the medium hospital category (101-350 beds) for participation in the registry and most importantly for highest percentage increase in defect-free care.

The Silver Plus Achievement Award is another award recently given to SGMC along with the Target: Stroke Honor Roll from AHA/ASA Get With The Guidelines. Recognition time of compliance was from January 2012 to December 2012.

SGMC is committed to improving quality of care for stroke patients and improving their outcomes. We appreciate all of you that have contributed to our success in this endeavor.

Submitted by Judy Warren, MSN, RN-BC, Stroke Coordinator, South Georgia Medical Center

Gwinnett Medical Center

In an effort to reduce door-to-needle time, Gwinnett County Emergency Medical Services (EMS), Gwinnett Medical Center, and Eastside Medical Center have implemented lab draws in the field for stroke patients calling within 3 hours of symptom onset. A Stroke Alert page is initiated in the field to notify the receiving facility. When the patient arrives, they are quickly registered and evaluated by the Emergency Medicine physician. The patient is then taken directly to CT. In the pilot project which involved 4 EMS stations and 29 patients, the average lab turn-around-time was 30 minutes, compared to non-EMS draws of 47 minutes. Our CT report time was decreased by half, with the average being 16 minutes. Mean door-to-needle time was reduced to 47 minutes; all were within the 60-minute window. We hope to extend this new process to all Gwinnett County hospitals in the near future.

Submitted by: Susan M. Gaunt, MS, APRN, ACNS-BC, CCRN, CNRN-Stroke Clinical Nurse Specialist, Gwinnett Medical Center

Medical Center of Central Georgia: Ribbon-Cutting For Newly Renovated Stroke Unit

The Medical Center of Central Georgia (MCCG) in Macon, Georgia, is one of many hospitals located throughout the southeast region serving communities that have collectively become known as the "Stroke Belt" of America. To be a part of the Stroke Belt means that we are in a region where the incidence of stroke is higher than in other parts of the country. Citizens of Macon and other locations throughout the Stroke Belt have increased risk factors for stroke, including high blood pressure, diabetes, obesity, tobacco use, and high cholesterol. In an effort to decrease the prevalence and associated long-term disability related to Cerebral Vascular Accidents (CVAs) or strokes, MCCG engaged in a renovation of its stroke unit beginning in June 2012, to transform the delivery of stroke care for our region.

On Tuesday, March 26, 2013, the nearly 9-month project became a reality. The ribbon was cut on the newly renovated and specialized unit which features 20 beds that have rooms that are larger in size, to allow for increased mobility and to decrease fall risks that may be associated with being in tighter spaces. Additionally, each bed has a built-in scale for weighing, and each room has its own computer for staff to do bedside charting. The work stations are located in the halls so staff are closer to patients, allowing for more responsive and efficient care. Furthermore, the unit has its own rehabilitation gym, which features a state-of-the-art Moveo tilt table to maximize physical therapy. "Our newly renovated stroke unit is the place where cutting edge technology meets world class care," says Theresa Ledrick, Georgia Neuro Center Director at MCCG.

Submitted by: Jeremy Mills, RN, MSN, MBA, Stroke Coordinator, Medical Center of Central Georgia.

A Message from Our QI Director: To Notify or NOTify, That is the Question

On March 11, 2011, a massive 9.0 magnitude earthquake and tsunami flattened much of northeastern Japan. Experts say the damage would have been far worse had Japan not had its early warning system in place. The system can provide anywhere from ten to thirty seconds of advance notice before an earthquake strikes, giving Japan's residents just enough time to slow down trains so they do not derail, shut off dangerous machinery, and send people to find cover. Japan has spent millions of dollars to build a sophisticated early warning system for earthquakes. Experts say this helped save millions of lives and mitigated the damage from the March 11th earthquake and tsunami.

With the assistance of our EMS partners, many of our hospitals have an early warning system in place for our stroke patients. Our EMS partners often provide the receiving ED pre-notification that a potential stroke patient is in route. The GWTG Outcome tool recognizes the importance of pre-notification and has the ability to track the percentage of patients arriving from EMS with hospital documentation of pre-notification.

How well have we been doing in this area as a whole? In 2012, only 31.8% of patients arriving via EMS to non-PSC hospitals had a documented record of pre-notification. PSC's were slightly higher at 43.7%. How does this affect our patients? Time is Brain. The difference in mean DTN time between patients with pre-notification and those without notification is 4.69 minutes, or approximately 8.9 million neurons, 65.66 billion synapses, and 35 miles of myelinated fibers lost.

Many factors may influence these results. One is the lack of documentation in the patient's record that pre-notification was received. Is it possible that we are not giving our hard-working EMS partners credit for pre-notification? Due to our recent focus on improving communication and partnerships between EMS and hospitals, we expect these numbers to improve. We encourage each of our facilities to partner with their EMS providers to review their current pre-notification protocol and numbers. Just as Japan's early warning system saved millions of lives, our stroke pre-notification system may also have the same impact. So, to pre-notify or not-notify? The choice is up to you.

Submitted by: James Lugtu, Quality Improvement Director, Georgia Coverdell Acute Stroke Registry

Georgia Stroke Professional Alliance (GA-SPA)

The next GA-SPA meeting is scheduled for Wednesday, May 22nd, from 10AM to 3PM at the Wellstar Development Center, 2000 South Park Place, Atlanta, GA. Guest speakers include Matt Asbury, DA Specialist LLC, who will present on "IP Stroke Abstraction - The Switch to CMS Mandated Regulatory Reporting," and Patrick Horne, CEO of DNV, who will present on DNV and Stroke Center Accreditation Options.

During the meeting we will be taking nominations for next year's chair positions. Feel free to nominate yourself or another GA-SPA member. If you are not planning to attend the May meeting, nominations can be emailed to Kerrie Krompf at kkrompf@emory.edu. The deadline for emailed nominations is Monday, May 20th. The positions are as follows:

Chair-elect: The Chair-elect is elected by Alliance members to serve a year in the position of Chair-elect and the following year in the position of Chair. The Chair-elect will support the

Chair as needed.

Secretary: The Secretary is elected by Alliance members to serve a year in the position of Secretary. Responsibilities are to take minutes at all GA-SPA meetings and keep a journal of all GA-SPA activities and highlights.

Treasurer: Responsible for keeping a ledger of all incoming and outgoing funds.

Subcommittee Chairs are also up for nominations:

- A. Education
- B. Good and Welfare (reports to the Treasurer)
- C. Membership/Mentoring
- D. Regulatory/Advocacy
- E. Remote Stroke Treatment Center Designation Support
- F. Stroke Month Activities
- G. Web-site
- H. Bylaws

For more information about the GA-SPA or if you're interested in attending the May 22nd meeting, please contact Kerrie Krompf at: kkrompf@emory.edu or 770-380-8998.



Stroke Education in the Work Place

Kim Anda, Stroke Coordinator at Southern Regional Medical Center (left), and Debbie Camp, Stroke Coordinator at Atlanta Medical Center (right), attended a Georgia Power employee function on April 10th, sponsored by the American Heart Association/ American Stroke Association. Debbie gave a presentation to a group of over 60 employees.

Stroke awareness materials were available and a diabetes educator was present as well. A physician was also available to answer their many medical questions.

Thank you to everyone involved in stroke for educating our community and fellow Georgians!

Coverdell Highlights and Upcoming Events

April Conference Call Recap:

Our guest speaker on the April Coverdell conference call was Dr. Michael Frankel, Lead Neurologist for the Georgia Coverdell Acute Stroke Registry. Dr. Frankel continued the discussion from the February call on improving completeness of the NIHSS and Last Known Well (LKW) time data elements. These two items still leave quite a bit of room for improvement. We are compiling all of the suggestions that were discussed on both calls. Once again, we'd like to thank Dr. Frankel for his presentation and for facilitating the discussion, as well as all the hospitals who have shared their suggestions on how to improve the completeness of these data elements.

SAVE THE DATE: Upcoming June 3rd Coverdell Conference Call

Our next Georgia Coverdell Call is scheduled for Monday, June 3rd at noon. We are excited to have Dr. Rishi Gupta as our guest speaker. Dr. Gupta is an acclaimed vascular neurologist, neurointensivist, and interventional neuroradiologist at the Marcus Stroke and Neuroscience center. Dr. Gupta will be presenting on the "Importance of Taking Stroke Patients to the Nearest Appropriate Facility" and the reasons why this is so important.

SAVE THE DATE: Coverdell Abstraction Training Workshop June 19th

The next Coverdell abstraction training workshop is scheduled for Wednesday, June 19th at Southern Regional Medical Center in Riverdale from 9 am to 2 pm. The workshop is for both new and current abstractors who wish to have additional clarification and training on the Stroke Patient Management Tool. For more information please contact Kerrie Krompf at kkrompf@emory.edu or 770-380-8998.

Announcing the new Georgia EMS Interfacility Ground Transport Protocol for tPA Patients

Earlier this month, we formally launched the new Georgia **EMS Interfacility Ground Transport Protocol** for post tPA patients (introduction letter and protocol are on the following pages). This protocol is the result of the strong relationships between our stroke partners, EMS, and stakeholders. A dedicated multidisciplinary team was formed to create the protocol. The following pages are the fruit of the team's labor, and we are very proud of the results.

The protocol has been endorsed by the State Office of EMS and Trauma and by the Georgia Coverdell Acute Stroke Registry (GCASR). Dr. Patrick O'Neal, the State EMS Medical Director, and Dr. Frankel, the Lead Neurologist for the GCASR, have endorsed the use of the protocol. The protocol does not replace sound clinical judgment, but should be used as a guide. We strongly encourage you to share it with your staff and with your EMS partners.

Thank you to all of the team members who dedicated their time and expertise to create the protocol, and for your continued dedication to improving stroke care in Georgia.

If you need an electronic version of the protocol, please contact James Lugtu at: jplugtu@dhr.state.ga.us

Please see next two pages for introduction letter and tPA transport protocol!



Brenda Fitzgerald, MD, Commissioner | Nathan Deal, Governor

2 Peachtree Street NW, 15th Floor
Atlanta, Georgia 30303-3142
www.health.state.ga.us

March 11, 2013

To: Emergency Medical Providers

RE: New inter-facility transfer protocol

Dear Emergency Provider:

We are proud to announce a newly developed inter-facility transfer protocol designed to enhance the quality of care for patients with acute ischemic stroke who are treated with intravenous tissue plasminogen activator (t-PA). This protocol was created by Georgia clinicians with expertise in stroke care who are part of Georgia's Coverdell Acute Stroke Registry (GCASR). Enclosed in this communication is the final document which has been endorsed by the Georgia Coverdell Acute Stroke Registry and the Georgia Office of EMS and Trauma. This new protocol should not replace sound clinical judgment, but instead should be used as a guide for health care providers when transporting these patients.

Georgia is in the heart of the stroke belt, an area of the US where more strokes and stroke-related deaths occur. We hope you find this new protocol a step in the right direction for establishing greater consistency and quality of care.

Please feel free to provide us with feedback about the new protocol.

Sincerely,

A handwritten signature in blue ink that reads 'J. Patrick O'Neal, MD'.

J. Patrick O'Neal, MD
State EMS Medical Director
Georgia Department of Public Health

A handwritten signature in black ink that reads 'Michael Frankel, MD'.

Michael Frankel, MD
Lead Neurologist
Georgia Coverdell Acute Stroke Registry



We Protect Lives.

EMS Interfacility Ground Transport Protocol for Patients during/after IV tPA Administration for Acute Ischemic Stroke

- Obtain and record vital signs every 15 minutes
- Obtain and record neurologic checks per the Cincinnati Prehospital Stroke Scale every 15 minutes
- BP management per Medication Guide below
- Strict NPO
- Maintain HOB at 30 degrees

Acute Stroke Management

<ul style="list-style-type: none"> • <u>Maintain BP<180/105</u> • If BP>180/105, follow BP protocol below • If SBP<140 or DBP<80 and patient on antihypertensive drip, titrate down and/or DC • Total tPA infusion time should be 60 minutes • Once tPA infusion completes, hang NS at existing rate with existing tubing to infuse remaining tPA 	<p>***No other medications through tPA infusion line</p> <p>***STOP tPA if the patient develops the following symptoms: worsening LOC, severe headache, acute hypertension, nausea and vomiting</p>
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Medication Guide for controlling BP in patients during/after IV tPA administration for Acute Ischemic Stroke

- If BP>180/105 and HR>60, give labetalol 10 mg IV x1 over 2 min; If no response after 10 minutes, may repeat x1
- If BP>180/105 and HR<60, give hydralazine 10 mg IV x1 over 2 min; If no response after 10 minutes, may repeat x1

Potential Complications

SYMPTOM	TREATMENT
Hypotension (SBP<90)	<ul style="list-style-type: none"> • HOB flat • d/c any antihypertensive drips • administer 500cc NS fluid bolus • if major bleeding suspected, STOP tPA
Hypertension (BP>180/105)	<ul style="list-style-type: none"> • per medication guide above
Neurologic Deterioration	<ul style="list-style-type: none"> • assess circulation, airway, breathing (CAB) • obtain full set of vitals and neurological check • check glucose and treat if <50
Shortness of Breath or Difficulty Breathing	<ul style="list-style-type: none"> • STOP t-PA if infusing • treat according to allergic reaction protocol
Nausea and Vomiting	<ul style="list-style-type: none"> • treat according to protocol
Bleeding	<ul style="list-style-type: none"> • apply direct pressure • treat according to protocol • if major bleeding suspected, STOP tPA

CONTACT SENDING OR RECEIVING FACILITY FOR QUESTIONS