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USC Pediatric Neurology Policy
Tim Livingston, MD

Diagnostic and treatment decisions are the responsibility of the specialist directly caring for the patient. Deviations from the following recommendations will likely be necessary. If you are a patient or parent you must discuss treatment plans with us or your primary physician prior to making changes in your child’s medication.

1. Patient Care Hours
   a. Monday – Thursday 8:00-4:00pm/Friday 8:00-12 noon

2. Physician and health specialists(urgent and after hours telephone/hospital coverage)
   a. Emergencies call 911
   b. Urgent calls 803 223 9202 (local to Columbia) day or night
   c. Non-urgent calls 803 434 7961
   d. On rare occasions we may not be available for inpatient or telephone consultation. If you are unable to reach us after several attempts we recommend you call the patient’s primary physician.

3. Admissions
   a. Direct all admissions to the primary physician caring for the patient. If the patient does not have a local primary, then please call USC pediatrics at 803 434 6000. We do not admit or accept transfers.

4. Inpatient consultations
   a. Consults are provided within 24-72 hours (sooner if requested) at Richland Children’s hospital

5. Seizure guidelines for primary physicians, ER physicians, and nurse practitioners (established patients)
   a. Occasional isolated seizures or clusters of seizures that stop
      i. increase maintenance seizure med 5-10% (round to nearest ml/available strength)
   b. Frequent breakthrough seizures with resolution between (not status epilepticus)
      i. IV lorazepam, consider IV fosphenytoin or levetiracetam (Keppra) if persists
      ii. increase maintenance seizure medication 5-10 %
      iii. admit to primary or USC pediatric service, consult neurology
   c. Status epilepticus (seizure greater than 10 minutes or multiple with lack of recovery between)
      i. administer IV lorazepam and fosphenytoin, call 803-434-6000 (USC Peds) for transfer
      ii. follow up 2-4 weeks after discharge/warn patients of risk of rash, ataxia, and other effects if this is done, and risks of seizures/admit to primary if returns soon after release from the ER

6. Headache guidelines for primary physicians, ER physicians, and nurse practitioners (established patients)
   a. administer Toradol (ketorolac) and metoclopramide (warn of GI hemorrhage, nephropathy, dyskinesia)
   b. if above ineffective admit to private or USC peds
   c. consider MRI of the brain if the headaches began within last month, or other neuron symptoms (see below)

7. Acute or subacute confusion, weakness, ataxia, or cranial nerve deficits
   a. MRI of the brain with and without contrast
   b. If the MRI demonstrates a mass lesion, consult neurosurgery and pediatric oncology
   c. if above does not show tumor or mass lesion, admit to primary physician (USC ped neuro can consult)

8. Outpatient appointments/referrals
   a. The referring specialist is responsible for prior authorization for all visits and tests in our office.
   b. We are a consultative service. We do not accept “walk in” or self referred patients.
   c. Non-established patients seen in the ER must be referred to us by their primary physician.
      i. If there is no primary MD, refer to USC pediatrics who can manage initiate referral
   d. Consultation is provided promptly. New/on-going management patients require 3-4 months wait
   e. We try to schedule consultation for seizure patients or those with developmental regression within 1-2 weeks, new-onset headache patients within 4-6 weeks of requested consultation, and those with developmental delay/learning problems/tics within 8 weeks.
   f. The above times are subject to change, but are much less than national waiting times for ped neurology
   g. Urgent appointments within 24-72 hours require that the referring specialist call 803-223 9202
      i. Ensure your staff obtains prior authorization from the patient’s insurer
      ii. Ensure your staff fax referral to 803 434 2789
      iii. Inform the patient that this rarely may necessitate that payment in full be provided at the time of the visit (e.g. patient’s with tricare, blue choice/companion, etc.)
NEW PATIENT REFERRAL/CONSULT FAX FORM

Date: _____________________  Person making referral: _____________________

Referring physician: ______________________________________________________

Phone: ___________________________  Fax: __________________________

INDICATE APPOINTMENT TYPE(S):  ☐ EEG  ☐ CONSULT  ☐ NEW PATIENT

PATIENT: ______________________  DOB: ______________

SS #: __________________________________

DIAGNOSIS: __________________________________________________________

• Please ensure that patient has had MRI brain or CT brain before initial neurology
  visit for seizures. Call 296-8888 for MRI/CT at Palmetto Richland Hospital.

Guardian name(s): ______________________________________________________

Home phone: __________________________________________________________

Work phone: __________________________________________________________

Address: ______________________________________________________________

___________________________________________________

Insurance: ___________________________  ID#: __________________________

PLEASE NOTE: Due to increasing referrals, there may be a four month wait for some
appointments. We recommend considering referral to Developmental Pediatrics for primary
concerns dealing with learning and/or autistic behavior. We highly recommend psychiatric
consultation if aggression is a significant component of the patient’s problems.

CONFIDENTIALITY NOTE
The information contained in this facsimile message is legally privileged and confidential information intended only for the use of the
individual or entity named above. If the reader of the message is not the intended recipient, you are hereby notified that any
dissemination, distribution or copy of the telecopy is strictly prohibited. If you have received this telecopy in error, please notify us
immediately by telephone and return the original message to us at the address above via the United States Postal Services. Thank you.
USC Pediatric Neurology

(Your Appointment)

Getting Here

Please park in the parking lot that is located between Richland hospital and 9 Medical Park. Our office is located on the second floor of 9 Medical Park. If your child is a new patient to us plan to arrive 15 minutes prior to your appointment to allow time to register. Please see the following directions.

1-26 (Spartanburg)
Follow 1-26 into Columbia. 1-26 becomes 1-126. Take the Elmwood Avenue exit. Follow Elmwood until it intersects with Bull Street. Turn LEFT on Bull Street until you intersect with Harden Street Extension. Turn RIGHT and go approximately 0.2 miles. Turn LEFT immediately after passing through the first stoplight into main hospital parking lot. Nine Medical Park will be to the right at the end of the hospital parking lot. Parking is available in attached parking garage. (Nine Med Pk Ste 200)

1-26 (Charleston)
Follow 1-26 into Columbia. Take EXIT 108 designated as Columbial26. 1-26 becomes 1-126. Take the Elmwood Avenue exit. Follow Elmwood until it intersects with Bull Street. Turn LEFT on Bull Street until you intersect with Harden Street Extension. Turn RIGHT and go approximately 0.2 miles. Turn LEFT immediately after passing through the first stoplight into main hospital parking lot. Nine Medical Park will be to the right at the end of the Hospital parking lot. Parking is available in attached parking garage. (Nine Med Pk Ste 200)

1-77 (Charlotte)
Follow 1-77 into Columbia. Take EXIT 18 designated as Columbial277. You will intersect with Harden Street Extension at first traffic light. Turn LEFT and go approximately 0.2 miles. Turn LEFT immediately after passing through the first stoplight into main hospital parking lot. Nine Medical Park will be to the right at the end of the Hospital parking lot. Parking is available in attached parking garage. (Nine Med Pk, Ste 200)

1-20 (Florence)
Follow 1-20 into Columbia. Take EXIT 73-A designated as Columbial277. You will intersect with Harden Street Extension at first traffic light. Turn LEFT and go approximately 0.2 miles. Turn LEFT immediately after passing through the first stoplight into main hospital parking lot. Nine Medical Park will be to the right at the end of the Hospital Parking lot. Parking is available in attached parking garage. (Nine Med Pk, Ste. 200)

Please see the map on the next page.
What to bring to your first appointment (New and Return Patients)

Please bring the following items, as applicable, with you to your clinic appointment:

- CTs and MRIs of the brain done previously
- EEG reports unless done at Richland or our office
- Copies of any written reports of treatment at other neurologists.
- Prior intelligence testing results
- A referral or authorization for the visit from your insurance copy or primary physician (if not already sent)
- Make a list of your child's current prescriptions (name and dose)

Prescription Refills

Bring all current medications or a list of all current medications including doses and frequency the medications are being given to your appointment. Please request any prescription refills that are needed at the time of your appointment. When prescriptions are written, we include enough refills to last until your next appointment so that you should not have to call the office for refills. Please do not call us after hours for prescription refills. Refills may be obtained by calling the office between 8:00 a.m. and 4:00 p.m. Monday through Thursday, and 8:00 am to 12:00 noon on Friday. At times this may require a 3-5 days wait (i.e. when we have a high volume of critically ill patients). Please plan in advance and notify us at least one week prior to needing a refill.

Please have the following information ready when calling for refills:

- You/your child’s name and date of birth
- Name of medication needed
- Strength of the medication
- The amount of medication you are currently giving
- How frequently you give the medication
- The name and telephone number of your local pharmacy

If there is any discrepancy between the information you have given the office assistants and the information recorded on your child’s chart, we may call you to verify the current information.

If your child has not been seen in the Pediatric Neurology Clinic within the past year, we may not be able to fill prescriptions unless a return visit appointment is scheduled. Your child’s prescriptions will then be refilled with enough medication to last until the scheduled appointment. Please call (803) 434-7961 to schedule an appointment. If you have been placed on inactive status please contact your primary physician for refills until your care is re-established with us.

Our telephone lines are often busy and you may be put in queue.

Laboratory and Test Results
We know you will be concerned about being informed of laboratory and other test results. When laboratory and other test results are received in our office, your child’s neurologist first reviews them. Parents are notified by telephone of any laboratory or other test results that are *significantly abnormal* whenever possible. On occasion we will send you the results and recommendations in the mail. If needed, call our office to speak to discuss these results.

If you do not receive information about results, it likely indicates that the test is unremarkable or not complete. Some advanced blood tests require up to 2-3 months on rare occasion. If you desire call the office 3-4 weeks after the test was done. Please inform us of the date and type of test and where it was completed. We will follow up and share the information with you.

Please note that results of EEGs, CT Scans, MRIs and EMGs are generally not available to our office for up to several days after the test is completed. They are usually not available to us the day of the test or the day after the test. Once the results are sent to our office, the neurologist will review them. If the results are abnormal, the physician or nurse will contact you with the results and recommendations.

If you do call the office before we have the results, the office assistants will take your message and when the results do become available and have been reviewed, the physician or nurse will telephone you. This may require up to 1-2 weeks on occasion.

Any results that the radiologist feels need to be acted upon urgently will be communicated to your child’s neurologist. You will be notified of those results as soon as possible.

**Contact Us**

*Do not contact us by email. This not currently approved by USC Pediatrics due to federal privacy laws. Unfortunately, we will not be able to return email. You can contact us by phone or fax.*

**Office phone number and hours**

- Emergency call 911
- Phone number: 803 434 7961
- Fax 803 434 7981
- Hours: 8:00 a.m. until 4:00 p.m., Monday through Thursday, 8:00-12:00 noon Friday
- Urgent neurologic problems call 223 9202, repeat after 15 minutes if no answer, thereafter contact your primary physician, call 911, or go to your nearest ER

**Calls regarding medical questions**

The Pediatric Neurology Service at the University of South Carolina includes staff physicians, nurse practitioners, nurses and office assistants. Our staff work as a team to coordinate ongoing management of your care, education, and telephone management. The office assistants are your first contact when you call the office. They help coordinate clinic activities.
Your appointment time is the best time to ask questions and gain information about your child’s condition and management plan.

If you do need to call with a medical question between appointments, please have available:

- the name and date of birth of your child
- the names and doses of your child's medication

During business hours our office assistants will document your concerns and related medical information. Your message will be given to one of our nurses who will review your child’s medical records before returning your call. Telephone calls are returned in order of urgency, so please be patient. If you believe you child is experiencing a medical life-threatening emergency and needs immediate medical attention, call 911. If you believe your child is experiencing an urgent problem that is NOT a life threatening emergency, please tell the office assistant so that your call may be addressed appropriately. If you have a time that is best for the nurses to call you back, please tell the office assistant and every effort will be made to contact you at that time. Our physician and nurse practitioner may not be available to speak directly with you on occasion; however, each patient call is reviewed by Dr. Livingston or Kristen Griffin, CPNP. One of the staff, Mrs. Griffin, or Dr. Livingston will contact you to discuss your concerns. If are awaiting a return call from us and need more urgent assistance, please contact your primary doctor.

Speaking with the Pediatric Neurology staff can be helpful when your child is having seizures or medication side effects. Seizures can be worse when your child is sick. If your child has fever, cough, vomiting, diarrhea or runny nose, we ask that you contact your Primary Pediatrician/MD first and if he/she feels you need to call our office, we encourage you to do so. Any other health concerns should be directed to your Primary Care Physician. A letter is faxed to your child’s referring specialist following each evaluation by the Pediatric Neurology Service. This letter provides information about the evaluation; the findings and the recommendations for treatment and future follow up.
1) We recommend that urgent and emergent EEG studies be ordered at the discretion of the treating specialist(s). We recommend that the EEG technician on call be contacted for after hours emergent and urgent EEG at 803 434 7242.

2) Some signs that would warrant consideration of an urgent or emergent EEG include the following.

   a. Staring, verbal unresponsiveness, drooling, myoclonus and/or confusion that does not resolve after 30-40 minutes, or that recurs frequently over several hours

   b. Seizures that recur frequently without return to consciousness between episodes

   c. Changes in mental status associated with fever that is not explained by another cause found with neuroimaging, lumbar puncture and/or blood work

3) We recommend that the treating physician request that nursing notify us at 803 223 9202 when the study is complete.
It is the responsibility of each patient/caregiver to make treatment decisions with the assistance of a physician. Please discuss any treatment decisions with your physician(s). These are guidelines and adjustments may need to be made by a physician. If you are not an established patient of USC Pediatric Neurology please do not follow these guidelines without seeking the help of a physician/neurologist.

I. Immunization safety

a. Extensive research indicates that most childhood immunizations are safe for children with neurologic disorders.

b. It is possible that rare situations exist in which certain children may be specifically vulnerable to any one of the immunizations.

c. A causal relationship between neurologic deterioration and administration of a specific immunization may be difficult to prove in individual cases, and in the population of children as a whole.

II. Should your child be immunized?

a. Under most circumstances we recommend routine childhood immunization in accordance with appropriate guidelines established by pediatricians and the American Academy of pediatrics.

b. We cannot guarantee the safety of any immunization with regard to the theoretical potential for extremely rare occurrences of neurologic deterioration, refractory seizures, neuropathy, autism and other conditions. Most research suggests that the risk of these problems is extremely low.

c. The risk of not being immunized could be substantial and sometimes could be life-threatening.

d. If your child has a history of seizures we recommend the acellular pertussis vaccine (discuss with your primary physician). This does not entirely eliminate the extremely rare chance for neurologic complications.

e. Under most situations the relative risk of complications from immunizations appears to be less than the potential risk of non-immunization.

f. You should schedule an appointment with us to discuss these issues one month prior to any scheduled immunizations.
USC Pediatric Neurology
Procedure Clearance and Precautions

It is beyond the scope and ability of our service to provide complete medical clearance for procedures. We recommend the following.

1) you and/or your dentist or surgeon should discuss the relative safety, advantages and risks any proposed procedures with regard to these being performed with no sedation, outpatient sedation, inpatient sedation, or anesthesiology assistance.

2) It is extremely rare that a seizure would occur during a procedure. However, this is not impossible. Your physician should be able to treat seizures and arrange for emergency care in the event this happens.

3) In general we recommend the following:
   a. If prescribed Diastat have it available to administer if seizures occur after your procedure.
   b. If done in an outpatient setting your dentist/surgeon should have training in pediatric and adult advanced life support and have appropriate equipment to address medical emergencies.
   c. If you or your child have a history of status epilepticus/seizures longer than 15-20 minutes consider having your procedure done with anesthesiology assistance and/or having fosphenytoin 20 mg/kg IV administered slowly over 1-2 hours prior to the procedure. This medication should not be given if you are allergic to phenytoin. This medication rarely causes serious problems with blood pressure, heart rate and/or other serious complications. Most of these are very rare, treatable and resolve.

4) In general most sedatives do not interact with most seizure medication, or raise the risk of seizures or complications to patients with seizures, headaches, hypotonia or cerebral palsy. However, you and your physician/anesthesiologist should consider consulting a pharmacist and/or drug interaction calculators (via the web).

5) If possible take your medication as scheduled prior to the procedure.

6) If you have a diagnosed muscle disorder or hypotonia of indeterminate cause, you may be at risk for malignant hyperthermia with some anesthetic agents. You should discuss this with an anesthesiologist prior to any procedures if this is the case.

7) It is your responsibility to be aware of your current medications/supplements and to inform your surgeon, dentist and/or anesthesiologist of these medications. We recommend that you discuss all of your current medications and any proposed sedatives/anesthetic agents with your pharmacist. Specifically please have your pharmacist check for interactions between these medications/agents.

8) If desired we will offer consultation 2 months prior to any procedure to check for any interactions for you and/or to discuss some of the neurologic issues relevant to any specific procedure.

This guideline does not guarantee the safety of any procedure or course of treatment. Each patient and health specialist is responsible for ensuring the safest and best treatment available.
Thursday, June 28, 2007

Re: Communication with ancillary agencies (e.g schools, home-health nurses, etc)

To Whom It May Concern:

It is the responsibility of our Division to communicate directly with patients and their family about their care. Communication with third parties is a necessity on occasion (e.g referring physicians). It is not safe for our critically ill patients for us to routinely communicate directly with other parties. Families and/or patients will need to communicate information directly to us from other agencies. The following policy is enacted.

1) Information regarding tests or medication adjustment should be communicated between the patient/patient’s caregivers and our office.
   a. If you have a home health nurse or provider that requires a physician’s prescription please provide the name and fax number of the individual at the time of your visit. We will make attempts to notify them promptly via fax.

2) Requests for medical records (other than from the referring or primary physician) will require a signed release.

3) Parties other than the patient and caregiver should communicate requests for information through the parent/caregiver.

4) Parties other than the patient and caregiver can attend appointments with the caregiver’s/patient’s permission

5) Exceptions to the above policy include, but are not limited to prior authorization for medication and/or tests. This may require 2-4 weeks due to the high volume of critically/seriously ill children with neurologic problems.

6) If you are an agency other than the patient’s caregiver, and you have a medical concern or require completion of forms please inform the patient or caregiver. The caregiver can relay your concerns and/or forms to our office.

7) If you are an agency, other than the patient/caregiver, with an urgent or emergent medical concern please call 911 or the patient’s primary physician.

8) Please see our website for policy with regard to sedation, anesthesia, school individual health care plans, and other important issues. It is imperative that any plans be discussed with the family/patient.

Timothy S. Livingston, M.D.
 USC Pediatric Neurology  
 Vacation Policy  
 (for physicians and health specialists)  

I. **Routine schedule**
   a. Please see page 2 of this manual for details of how to contact us
   b. We strive to be available 24/7/365, but we can not be available 100% of the time.

II. **Vacation schedule**
   a. We will make every attempt to ensure that Dr. Livingston, and/or Kristen Griffin are available to provide telephone, outpatient consultation and/or inpatient consultation in a timely manner even during vacations.
   
   b. On rare occasions we will not be available in this capacity
      i. Telephone coverage may be impossible while flying or traveling to remote areas
      
      ii. On rare occasion both Dr. Livingston and Kristen may simultaneously be away from the immediate area
      
      iii. Please follow the protocols delineated on page 2 with regard to options if you are not able to reach us.
   
   c. We will attempt to notify referring physicians, emergency room staff and others prior to vacation.
      i. This will be performed with the assistance of the USC Chairman of Pediatrics (Dr. Caughman Taylor)
      
      ii. Please call USC Pediatrics at 8093 434 6000 if you are a physician and you need to consider transferring a patient, but are unable to reach us