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Inside

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Are your sickle cell patients in danger? Follow new pain management guide

Most EDs fail to adequately manage this disease

When a woman with sickle cell disease walked with assistance to one ED complaining of excruciating pain, she was ignored as she waited for hours. The next time an acute pain episode occurred, the patient instructed her husband to tell the triage nurse she was unable to walk.

"That way, they had to bring her in on a stretcher, and she got immediate treatment," says **Victoria Odesina**, RN, MS, CS, a clinical research nurse at Yale University School of Nursing in New Haven, CT. "The above patient is a professional with a postgraduate degree. It shows you what some sickle cell patients have to resort to."

Unfortunately, the frustration encountered by the patient in the above scenario is not uncommon, says Odesina. "Often, sickle cell patients are treated as drug seekers or thought to be exaggerating their pain," she explains.

Failure to give timely, appropriate interventions can lead to complications and even life-threatening conditions, she warns.

A new *Quick Reference Guide for Emergency Department Clinicians* was developed by the Glenview, IL-based American Pain Society (APS) to address the

CE questions enclosed in this issue

Beginning this month, *ED Nursing* will print CE questions in each issue **(see p. 128)**. At the end of the six-month semester, we'll include a Scantron form and envelope in the issue so that you can answer the questions and return the answers to us. This change means you'll need to keep your issues for at least six months so that you can refer to those issues and write down your answers when you receive your answer sheet. Also, if you already are a participant in our CE program, you'll find the test for the previous semester enclosed in this issue. If you have any questions, please contact Joy Daughtery Dickinson, Senior Managing Editor, at joy.dickinson@ahcpub.com. Telephone: (229) 377-8044. ■

EXECUTIVE SUMMARY

Sickle cell patients often receive inadequate pain relief in the ED, which can lead to life-threatening complications, but new guidelines from the American Pain Society give you specific steps to take.

- Always treat sickle cell pain as an emergency.
- Don't view sickle cell patients as drug seekers.
- Watch for signs of potentially life-threatening conditions, including abdominal, head, and chest pain and fever with pain.

unique needs of sickle cell patients. The guide gives you specific steps to follow, with instructions for what to do next if pain is not relieved after 10 minutes or complications arise, says Odesina. **(See algorithm for *Management of an Episode of Acute Pain in Sickle-Cell Disease*, enclosed in this issue, and see resource box, p. 117, to obtain a copy of the *Quick Reference Guide*.)**

"The role of the ED nurse cannot be overemphasized," emphasizes Odesina, who helped to develop the APS' guidelines for sickle cell pain management. "You play an essential role in the successful management of sickle cell pain episodes."

Here are ways to improve care of sickle cell patients, according to the new guidelines:

• Assure patients that their pain will be relieved.

Sickle cell disease is very difficult to manage; because pain episodes not only vary from one patient to the other, also they can be different from one episode to the next, says Odesina. "So you may have a patient with a history of pain episodes in the legs and back, and next time it may be in the chest or abdomen," she explains. **(See *Common Pain States Associated with Sickle-Cell Disease*, p. 116.)**

First, reassure the patient that you understand how to manage sickle cell pain, says Odesina. "If the patient realizes that you know what to do, they have some comfort in knowing that at least they won't have to beg for the appropriate medication or treatment," she explains. "For sickle cell patients, that's half the battle, and the stress of worrying can make the pain episode worse."

• Find out if the pain is different from usual.

Ask the patient, "Is this pain your typical crisis pain?" recommends **Allan Platt**, PA-C, program coordinator of the Georgia Comprehensive Sickle Cell Center at Grady Health System in Atlanta.

If the answer is no, quickly seek complications and other causes of pain, Platt emphasizes. "Head, chest, and abdominal pain are all high priority, because they could be the signal of a life-threatening complication or nonsickle cell emergency," he says. "Fever and pain is a red flag also." **(See excerpt on these conditions from the center's *Emergency Department, Ambulance, and Triage Guidelines for Sickle Cell Patients*, p. 115.)**

• Be sure to reassess pain.

Be familiar with new pain management standards from the Oakbrook Terrace, IL-based Joint Commission on Accreditation of Healthcare Organizations, suggests **Kim Colonnelli**, RN, BSN, MA, director of emergency and trauma services at Palomar Medical Center in Escondido, CA.

Reassessment is required, and surveyors will be looking for this documented in nurses' notes, she adds. "Reassessment of the patient goes hand in hand with medication administration," says Colonnelli. "Also, nursing notes need to reflect that you have reassessed the patient."

Use whatever method was used to assess pain upon the patient's arrival to ensure consistency in reassessment, she advises.

• Always treat sickle cell pain as an emergency.

Often, sickle cell pain is not recognized as an emergency, but this is a serious mistake, warns Odesina. You need to understand the basic process of vaso-occlusion that is causing the pain, she says.

"The earlier you alleviate it, the better the chance of recovery," she emphasizes.

Repeated and prolonged vaso-occlusion results in tissue damage, Odesina warns. "That is why you see multiple-organ damage in adult sickle cell patients," she adds. "What you do at any given time has either a positive or negative impact on the patient's prognosis. That makes sickle cell pain an emergency."

Sickle cell pain might look like ordinary pain, but it might be life-threatening, Odesina cautions. She notes that a sickle cell patient might present with chest pain due to acute chest syndrome or abdominal pain due to

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COMING IN FUTURE MONTHS

- Reduce noise in your ED
- Screen patients for alternative medicine use
- Effective ways to educate your staff
- Increase reimbursement with better documentation

Sickle Cell Information Center Protocols (Excerpt)

Edited by James Eckman, MD, and Allan Platt, PA-C

Emergency Department, Ambulance, and Triage Guidelines

Sickle cell patients are frequently seen in emergency departments (EDs) for evaluation of new symptoms and for pain management. These patients are at high risk for life-threatening events, and their triage level should be high. Patients' level of pain should be assessed and believed. Ambulance staff should transport the patient to an emergency facility with a knowledgeable staff. Time should not be used in the field obtaining an IV unless there is a long transport. Nasal oxygen can be administered if the patient is dyspneic. ED staff performing triage and evaluation should be aware of high-priority problems:

- **Fever.** Fever is a high-priority problem that could potentially be fatal sepsis. Patients with Hb SS are functionally asplenic and at very high risk for bacterial infections. This should not be masked with antipyretics until the source is known. Patients should be brought into the clinic immediately for a full evaluation. Early treatment with empiric parenteral antibiotics after cultures are obtained can be life-saving. All patients should receive pneumococcal vaccine at ages 2 and 6, and every 10 years. Prophylactic penicillin should be instituted at birth and should continue until the child is 6 years old or longer in individual cases.
- **Chest pain or dyspnea.** Could be potentially fatal acute chest syndrome and needs a full evaluation with a chest X-ray. Administer oxygen if the patient is dyspneic or hypoxic. Order incentive spirometers for all hospitalized patients to prevent chest syndrome. Chest syndrome may need treatment with blood transfusions.
- **Acute headache.** Could be a hemorrhagic or thrombotic stroke, or meningitis. A rapid evaluation with consideration of a CT scan and/or lumbar puncture.
- **Acute abdominal pain.** Could be splenic/hepatic sequestration, cholecystitis, bowel infarction, or any other cause of acute abdominal pain. Narcotic analgesics may mask the signs and pain of an acute abdominal problem.
- **Transient neurologic symptoms**, even in children, should be considered a stroke and early transfusion can prevent further episodes. A painless limp may indicate hemiparesis.
- **The "worst" pain crisis ever** with other evidence of multiorgan failure should be treated immediately with blood transfusions or exchange transfusion.
- **Weakness, dizziness, and increasing fatigue** can indicate an increasing anemia from aplastic crisis, sequestration of red cells in the spleen or liver, and from increased hemolysis. Chronic hemolysis will cause an elevated indirect bilirubin, lactate dehydrogenase, and reticulocyte count. A "normal" or low reticulocyte count and a falling hematocrit is an indicator of aplastic crisis. A reticulocyte count is the best indicator of the bone marrow effectiveness in making new red cells.
- **Atypical pain.** Always ask the patients if the pain they are experiencing is normal pain crisis. If it is atypical, suspect another cause of the pain or a complication causing the pain episode. Focal bone pain and tenderness may be a bone infarction or osteomyelitis.
- **Priapism.** Priapism is a painful sustained penile erection, and if it is not treated promptly, it can result in permanent impotence.
- **IV fluids and access.** Hypotonic IV fluids such as D5W should be used to treat pain events to drive free water into red cells. Never use the foot or lower leg as an IV site because of the potential for leg ulcers. Many patients have ports for venous access. Use the proper Huber needle and strict aseptic technique to access a port.
- **Addiction.** Narcotic addiction is a rare occurrence, usually effecting 2%-5% of the sickle cell population. Negative attitudes should not be generalized to all sickle cell patients. (It takes several days of continuous narcotics to cause physical dependence and tolerance. This should not be a concern in the ED.)
- **Routine labs.** Emergency evaluation should include a complete blood count with white blood cell differential, a reticulocyte count, lactate dehydrogenase, direct/indirect bilirubin, and urinalysis. Other lab values may be required, depending on the presenting problem.

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Guideline for the Management of Acute Pain in Sickle-Cell Disease in the Emergency Department

This guide was prepared to provide emergency department clinicians with quick access to guidelines for the management of acute pain in sickle-cell disease. Severe pain should be considered a medical emergency that needs timely and aggressive treatment to the best relief possible. These recommendations should be used in conjunction with *Guidelines for the Management of Acute and Chronic Pain in Sickle-Cell Disease* (American Pain Society, 1999).

Common Pain States Associated with Sickle-Cell Disease

Pain States	Clinical Signs and Symptoms	Signs/Underlying Cause	Special Features/ Considerations
• Acute painful event	• Sudden onset • Pain in any and all parts of body	• Vaso-occlusion • Endothelial damage • Inflammation	• Unpredictable, recurrent • Great variability • All ages
• Acute hand-foot syndrome (dactylitis)	• Painful dorsal swelling of hands and feet	• Symmetrical infarcts of metacarpal and metatarsal bones due to obstruction of developing blood vessels	• More common in childhood • Often first manifestation of disease (occurring as early as 6 months of age)
• Acute inflammation of joints	• Painful swollen joints	• Vaso-occlusion/injury • Inflammation • Infected joints • Gout	• May accompany dactylitis • Acute flare-ups as isolated events • Septic arthritis is rare but may occur
• Acute chest syndrome	• Chest pain, particularly rib and substernal area • Chest pain posteriorly (upper back) • Fever, tachypnea, and/or hypoxia	• Pulmonary infiltrates • May be associated with infarction or infection • Unilateral pain (splinting from atelectasis)	• May require exchange transfusion and can be fatal • **Common cause of mortality in children and adults**
• Splenic sequestration	• Left upper-quadrant pain • Marked pallor • Sudden decrease in hemoglobin concentration • Enlarged spleen	• Blood trapped in the spleen	• Can be catastrophic in children, with possibility of circulatory collapse • Insidious onset in adults • Occurs in older children and adults with HbSC and sickle beta thalassemia
• Intrahepatic sickling or hepatic sequestration	• Right upper-quadrant pain • Sudden decrease in hemoglobin • Enlarged liver	• Blood pooling in the liver	• Occurs more commonly in adults
• Abdominal and intra-abdominal pain	• Jaundice • Diffuse abdominal pain • Enlarged spleen	• Cholelithiasis • Constipation secondary to opioid therapy • Splenic infarction	• Can be initial manifestation of acute chest syndrome • Involve surgery if severe symptoms
• Priapism	• Painful erection	• Sickling in sinusoids of penis	• May last for a few hours (acute and brief) to days (acute and prolonged), or may be chronic or stuttering (intermittent)
• Avascular necrosis of femur or humerus	• Prolonged, constant bone pain • Shoulder pain • Knee pain • Hip pain	• Associated with bone infarction, sickle arthritis	• Physical therapy may be useful for reducing pain and maintaining function
• Chronic neuropathic pain	• Pain in back, lower extremities, other sites • Spontaneous • Lancinating • Burning	• Older adults: disc disease, infections • Collapsed vertebrae • Iron overload neuropathy	• Must be considered in patients who are unresponsive to opioids • Treatment modalities may require days or weeks before taking effect • Creates chronic pain state

Source: American Pain Society, Glenview, IL.

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splenic sequestration, both of which can be fatal.

• Obtain input from the patient about pain relief.

Sickle cell patients are used to living with chronic pain, so they already will have attempted to manage their acute pain episodes at home for hours or days, says Odesina.

"The last place an individual with sickle cell pain wants to be is the ED, because they often don't get appropriate treatment," she says. "Coming to the ED is their last resort."

At that point, the patient needs immediate pain relief, says Odesina. "This is not a time to worry about addiction," she adds. She recommends assessing the patient's pain level using age-appropriate pain scales and time frames provided in the guideline.

"A misconception is that sickle cell patients fake their pain," she says. "Remember that the patient is the one experiencing the pain, and only the patient can accurately and objectively describe the pain."

When a sickle cell patient requests a specific drug, you might see that as a red flag that the patient is a drug seeker, but this is a mistake, says Odesina. "It actually helps to ask the patient what works for him or her," she stresses.

• Don't use sedatives and anxiolytics alone to manage pain.

These medications can mask the behavioral response to pain without providing analgesia, says Odesina. 'If you give a patient morphine, the side effect is drowsiness. The patient may be sleeping, but that doesn't mean the pain is gone," she adds.

Sickle cell patients usually have found ways to adjust and distract themselves, so they may appear stoic, says Odesina. "When they complain, the pain is real," she says. "If they are quiet, that doesn't mean that their pain is not as bad as a patient who may be screaming and thrashing around."

The guidelines recommend use of nonsteroidal anti-inflammatory drugs or acetaminophen for mild to moderate pain, adding an opioid if it persists, and increasing the opioid strength or dosage as appropriate for moderate-to-severe or persistent pain, says Odesina.

• Advocate for sickle cell patients.

Patients in pain rely on you to advocate for them, says Odesina. "You are the liaison between the patient and the physician, to be sure that the appropriate pain medication is given," she explains.

Discuss the use of the guideline with nurses and physicians, hang the chart on the wall of every treatment room, and show the pocket guide to physicians, while pointing out the specific interventions that should be taken, she recommends.

SOURCES AND RESOURCE

For more information about sickle cell pain management, contact:

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Copies of the *Guideline for Management of Acute Pain in Sickle-Cell Disease: Quick Reference Guide for Emergency Department Clinicians* are available from the American Pain Society. A pocket guide costs $7.50 for a package of 10 for members and $9 for nonmembers. A wall chart costs $2 for a single copy for members and $2.50 for nonmembers. To order, contact:

- **American Pain Society**, 4700 W. Lake Ave., Glenview, IL 60025. Telephone: (847) 375-4715. Press 3. Fax: (877) 734-8758. E-mail: info@ampainsoc.org.

A web site for the Sickle Cell Information Center features extensive resources for sickle cell patients and health care providers (www.emory.edu/PEDS/SICKLE). For more information or to order the resources by mail, contact:

- **The Sickle Cell Information Center**, P.O. Box 109, Grady Memorial Hospital, 80 Butler St. S.E., Atlanta, GA 30303. Telephone: (404) 616-3572. Fax: (404) 616-5998. E-mail: aplatt@emory.edu.

A common problem is that patients aren't given enough medication to hold them until they can see their regular doctors, says Odesina.

"ED physicians often don't give enough, either in quantity or strength. It should be equivalent to the IV they were given in the ED," she says. "When an inadequate prescription is given, you should question it." ■

Bring parents along on air transport

When a teen-ager was critically injured in a car accident and in full arrest, the mother flew to the ED in the helicopter with her child. "She was present through the entire resuscitation," recalls **Janet B. Davis**, RN, medical crew supervisor for the University of Kentucky Air Medical Service in Lexington.

The child didn't survive, but the parent was extremely grateful to have been given the chance to be present. "She felt very positively about being there and told us that it helped her so much to work through her grief," says Davis.

When a child needs to be transferred to another institution, it's terrifying for both the child and the parent, says **Reneé Semonin Holleran**, RN, PhD, chief flight nurse and clinical nurse specialist at University Hospital in Cincinnati. "People are afraid that this means the child is critically ill, and many times this is true," she notes. "Add a helicopter transport, and it makes it even more stressful."

If the parent can be brought along safely, they should be given the option to remain with their child, argues **Diana L Deimling**, RN, BSN, CCRN, CEN, CFRN, NREMT-P, flight nurse with University Air Care in Cincinnati.

"Having a parent there calms the child," says Deimling. "Emotional support is a major advantage, and the child is much more at ease if he or she knows a parent is coming."

If the child does not survive, you'll be giving a parent the chance to be with their child for the last time, says Holleran. "That is one of the most important nursing interventions we can provide," she adds.

EXECUTIVE SUMMARY

Bringing parents along on pediatric helicopter transports has many benefits, including calming a frightened child and obtaining important medical information.

- You can obtain medical history for the receiving unit, such as information about allergies and congenital abnormalities.
- Give parents a job, such as continually reassuring the child through headphones.
- You'll need to prepare parents for what may occur during transport.

SOURCES

For more information on bringing parents on transport, contact:

- **Janet B. Davis**, RN, University of Kentucky Air Medical Service, Emergency Transport Medical Crew Supervisor, Room HA038, 800 Rose St., Lexington, KY 40536-0293. Telephone: (859) 323-6531. Fax: (859) 323-4799. E-mail: jbdavis@mvs.hosp.uky.edu.
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Here are things to consider when bringing parents along on transport of pediatric patients:

• Give parents a job.

Generally, the parent needs to ride up front with the pilot, but he or she can talk to the child and maintain eye contact. "They can provide comfort for young children by either being in his or her line of vision or talking with him or her through the headset," Holleran says. "I have personally witnessed this calming effect."

This makes your job easier, Deimling notes. "It's one less thing you have to do for the child, because the parent can constantly reassure him or her. They take over some of that role for you."

There are certain conditions during which you need the child to be as calm as possible, add Davis. "For example, for a child with significant glossitis, agitation can result in a complete airway obstruction," she says. "Having the parents there to hold the hand or visually maintain eye contact is extremely helpful."

• Warn the parent what to expect.

You'll need to spend a few minutes before takeoff informing parents about what is going to occur, says Davis. "You need to do this before the noise of the engines is impairing," she adds. "Lay out clearly the expectations for what may occur during transport and what you need them to do if any of those things happen."

Deimling recommends warning the parent if the child is very unstable. "I tell them that the worst-case scenario

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Additional Passenger on Aircraft Policy

SUBJECT: PASSENGERS ON AIRCRAFT

POLICY: All passengers are to receive an oral passenger briefing prior to flight

PURPOSE: Warrant safe transport of crew members, patients, and passengers

RESPONSIBILITY: Pilot in command, air medical crew members

PROCEDURE:

A. The final decision to allow passengers on board rests with the pilot in command.
B. Before flight, the pilot in command will ensure that all passengers are briefed and familiarized with the following information:
   1. Smoking: No smoking within 50 feet of the aircraft. Smoking is prohibited on board the aircraft.
   2. Use of Seat Belts and Shoulder Harnesses: Seat belts and shoulder harnesses must be fastened during all flights. Do not unfasten the belts until the aircraft is on the ground and the pilot notifies you that you may exit the aircraft.
   3. Doors and Emergency Exits: Location and use.
   4. Survival Equipment: Location of survival equipment.
   5. Location and Use of the Fire Extinguishers: Do not use the fire extinguisher in an enclosed area unless directed by the pilot, or open flames are visible, or time is a major constraint.
   6. Ground Operations: Never walk toward the rear of the helicopter or under the tailboom. Avoid the tail rotor area by a wide margin. Keep head and objects low when near or under the main rotor blades. Do not approach or depart the helicopter without the pilot's approval. Use a 45 degree angle relative to the aircraft, when departing or approaching the helicopter, and stay in the pilot's view at all times.
C. The pilot in command shall ensure that each person who may need the assistance of another person to move expeditiously to an exit if an emergency occurs, and that person's attendant, if any, has received a briefing as to the procedures to be followed if an evacuation occurs.
D. The oral briefing is supplemented by printed passenger briefing cards for the use of each passenger. These cards contain a diagram and method of operating the emergency exits and instructions necessary for the use of emergency equipment on board the aircraft.
E. Examples of passengers that may accompany crew members are:
   1. Parent or guardian to accompany a critically ill or injured child
   2. Patients transported over great distances
   3. Medical personnel who are required to care for a patient
   4. Ride-along emergency medicine resident
   5. Paramedic students as part of the approved program
   6. Approved public relations personnel.
F. Any time a passenger is taken in the patient cabin of the BK1-7, a trained member of the University Air Care staff must accompany the patient in the back. If patient care is to be given, the staff member must be a flight nurse.

REV: 9/22/99

Source: University Air Care, Cincinnati.

is this child could need CPR or intubation then, and if that happens, don't get in my way because we are trying to save him or her," she explains.

• Ask for specific medical information.

Parents of children with chronic illnesses such as seizures are very familiar with their children's care, notes Holleran. They can provide information about allergies, medications, immunizations, and previous medical history, she says.

Parents of children with special needs and extensive pre-existing medical histories are the "experts" in knowing what is normal, says Davis. "That information is invaluable in making decisions during transport," she says. "For example, a parent can tell us whether seizure activity is typical for their child or something different."

• Consider feelings of all the team members.

Transport team members may have very strong feelings about having others in the aircraft, says Holleran. "Their wishes need to be considered," she notes. "In other words, this policy needs to be developed as a democratic decision."

• Consider safety issues.

If a parent may act violently for some reason, that parent may cause a safety risk and should not be allowed to accompany the child, says Holleran. "One red flag is a parent who is too distracted, she adds. "For example, they cannot even look at or touch the child."

Other practical issues to consider is that the size of the aircraft may restrict additional passengers, says Deimling. She explains that at University Air Care, a smaller helicopter was routinely dispatched for pediatric transports, which is not capable of carrying an additional passenger. "So a policy was changed to dispatch our larger helicopter to allow the parent to come along if possible," she says.

If the parent is unable or unwilling to be present during transport, Holleran suggests giving the child one of the parent's keys. "Have the parents explain that they will be there soon because they need the key, and that seems to comfort the child," she says. "Stuffed animals and pictures of their family may also help." ■

Save lives with a rapid neuro exam

A man comes to the ED after being hit on the head with a tree limb and complained of a headache. At first glance, it appears that all the patient needs is suturing for a scalp laceration.

But when the triage nurse completes a rapid neurological examination, the evaluation reveals a Glasgow Coma Scale score of 14. The pupil exam shows a delayed response to light and a dilated right pupil. The physician is immediately notified and sends the patient to CT for a noncontrast scan of his head, which reveals a subdural hematoma.

As a result, neurosurgery service is consulted, and definitive therapy is completed in a timely manner. The patient survives and is discharged neurologically intact.

Performing a neurological exam can avoid an adverse outcome or even save a patient's life, says **Steve Glow**, RN, MSN, FNP, CEN, EMT-P, nursing faculty at Salish Kootenai College in Pablo, MT, and a former ED nurse at Lutheran Medical Center in Wheat Ridge, CO.

Here are items to consider when performing a rapid neurological examination:

• Know which patients need the neurological exam.

The majority of ED patients should have a rapid neurologic exam, Glow emphasizes. **(See steps to follow for a neurologic screening exam for alert patients, p. 121.)**

"Any trauma patient with a significant mechanism of injury or evidence of trauma above the waist should have a neurologic exam," he says.

This criteria includes anyone with altered mental status or intoxication, neck pain, neurologic symptoms or distracting injury that could mask neck pain, or lack of knowledge of events leading up to an accident, Glow says.

All ED patients need a "AVPU" exam performed, argues **Laura M. Criddle**, MS, RN, CS, CEN, CCRN, CNRN, emergency, trauma and neurological clinical nurse specialist at Oregon Health & Sciences University in Portland. The AVPU system classifies patients as A (awake), V (responds to verbal stimuli), P (responds to painful stimuli), or U (unresponsive), she notes.

EXECUTIVE SUMMARY

Doing a rapid neurological examination can avoid an adverse outcome or even save a patient's life.

- Any trauma patient with a significant mechanism of injury or evidence of trauma above the waist should have a neurologic exam.
- All ED patients should be assessed with the "AVPU" system (awake, verbal stimuli, painful stimuli, or unresponsive) and pupil assessment.
- Early signs of deterioration include a patient being restless, agitated, difficult to arouse, violent, apathetic, or distraught.

"For most, this is as simple as observing that they are walking, talking, and making sense," she adds. Any patient who has deficits in these areas needs to quickly be assessed more in depth, she stresses.

AVPU doesn't use points

• Understand what the exam must include.

In a rapid neurological assessment, the two key items to focus on are "AVPU" and pupils, says Criddle.

The "AVPU" system is much simpler than the Glasgow Coma Scale, because no points are assigned or totaled, explains Criddle. "Next, if the patient is not awake, immediately assess pupil size, shape, reactivity, and gaze," she advises.

These two tests quickly will identify patients with major deficits and those at risk for rapid deterioration, she explains.

Once these two pieces of information are known and acted upon as needed, the patient's Glasgow Coma score can be assessed for ongoing tracking, says Criddle.

Other important neurological assessment findings to check as appropriate include the patient's ability to protect his or her airway such as gag, cough, and swallow reflexes. A brief assessment of the patient's ability to move and feel each of the extremities, as well as his or her ability to take a deep breath, will identify most patients with significant spinal cord injuries.

• Watch for signs of deterioration.

Determine how appropriate the patient is to the situation, says Criddle. "He may be awake and alert, but is he restless, agitated, difficult to arouse, violent, apathetic, distraught?" she asks. "Each of these findings may either be early signs of deterioration or indications of the etiology, such as toxic, metabolic, hypoxic, or psychiatric conditions."

• Use a form that requires documentation of a neurological examination.

Frequently, this assessment is either not done or it is not documented, says Glow.

"The greatest opportunity for improving compliance with nurse neurological exams would be the inclusion of a better set of neurological parameters on triage and assessment forms," he says.

He recommends the use of check boxes to facilitate documentation. **(See Neurological Guidelines Flow Sheet, enclosed in this issue.)**

• Perform a motor assessment of the lower extremities.

Ask the patients to wiggle their toes, move their leg across the surface of the bed, then lift their leg off the bed, says Criddle. "If the patient cannot do these things, check for rectal tone to see if there is sacral sparing," she adds.

• Assess the patient's ability to take a deep breath.

This is vitally important, says Criddle. "C-4 will innervate the diaphragm so patients can continue to breathe," she explains. "However, without the intercostals [upper thoracic spinal cord] and the abdominal muscles [lower thoracic spinal cord], patients cannot take deep breaths or cough."

Therefore, patients with lower cervical spine or upper thoracic spine injuries need to be watched closely for respiratory deterioration, says Criddle. "They commonly 'poop out' over time and require mechanical ventilation," she notes.

SOURCES

For more information on performing a rapid neurological exam, contact:

- **Laura M. Criddle**, MS, RN, CS, CEN, CCRN, CNRN, Oregon Health and Sciences University, Mail Code UHS 8Q, 3181 S.W. Sam Jackson Park Road, Portland, OR 97201. Telephone: (503) 494-1350. Fax: (503) 494-7441. E-mail: criddlel@ohsu.edu.
- **Steve Glow**, RN, MSN, FNP, CEN, EMT-P, Salish Kootenai College, P.O. Box 117, 52000 Highway 93, Pablo, MT 59855. Telephone: (406) 675-4800 Ext. 335. Fax: (406) 675-4325. E-mail: Steve_Glow@skc.edu.

Try this 30-second neurological exam

Here is a "30-second neurologic screening exam for alert patients" based in part on the Cincinnati Pre-Hospital Stroke Scale and developed by **Steve Glow**, RN, MSN, FNP, CEN, EMT-P, nursing faculty at Salish Kootenai College in Pablo, MO, and former ED nurse at Lutheran Medical Center in Wheat Ridge, CO:

1. Observe pupils and eye movement. Then ask the patient to "tell me your name and give me a smile."
2. Ask patient to "grab my hands and squeeze," then let go.
3. Ask patient to "close your eyes, hold your arms straight out." Say, "I want you to hold them still for 10 seconds." ■

Because this population probably also is in neurogenic shock, many of the usual signs of respiratory distress, such as accessory muscle use, tachycardia, and diaphoresis will not be evident, Criddle says. "Watch carbon dioxide levels closely," she advises. ■

NEWS BRIEF

New telephone triage exam is offered

Telephone triage nurses, take note: There now is a way to demonstrate your specialized skills to both patients and employers. A new certification examination in telephone nursing practice is offered by the Chicago-based National Certification Corp. for the Obstetric, Gynecologic, and Neonatal Nursing Specialties.

If you perform telephone triage using protocols, policies, documentation, and quality improvement, you should consider taking the exam, says **Valerie Grossman**, BSN, CEN, nursing director of medical/surgical services for ViaHealth of Wayne in Newark, NY, and chair of the Telephone Nursing Practice Content Team.

The certification provides a standard and a public demonstration of expertise for employers, says Grossman. "It also gives confidence to patients regarding the qualifications of those providing telephone advice or telephone triage," she states.

Just as CEN or CCRN shows a certain level of expertise in the ED, the RNC credential will do the same for telephone nursing practice, says Grossman.

'Telephone nursing' grows

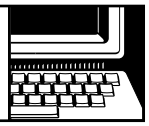
There is a trend toward telephone triage as a growing part of nursing practice, says Grossman. "Telephone health care is occurring everywhere," she reports. "Like everything else, some programs are well-run with proficient staff, while some programs are run poorly."

Having the certification will demonstrate that you have met a level of expertise, says Grossman. "Performing telephone nursing is much more than just answering a telephone," she adds.

The cost of the exam is $250. Certification is awarded for a period of three years and can be maintained by obtaining 45 hours of continuing education in telephone nursing practice or by re-examination. Nurses with two years of experience in telephone nursing and who have been working in telephone nursing in the last 24 months are eligible to take the examination.

[Editor's Note: The examination will be given Sept. 21 (filing deadline Aug. 3) and Dec. 7, 2001 (filing deadline Oct. 19). There are about 50 sites offered each time the test is given, and special sites can be set up for 10 or more applicants. To have a registration catalog faxed to you, call (800) 367-5613. For more information about the exam, contact: National Certification Corp. for the Obstetric, Gynecologic, and Neonatal Nursing Specialties, 645 N. Michigan, No. 900, Chicago, IL 60611. Telephone: (312) 951-0207. E-mail: bburns@nccnet.org. Web: www.nccnet.org.] ■

WEB ALERT



Site offers injury prevention info

Vital stats
Site: The National Center for Injury Prevention and Control
Address: www.cdc.gov/ncipc

Are you looking for the latest injury data, research, and prevention program information? If so, go to the National Center for Injury Prevention and Control's (NCIPC) web site.

"All of the injury information provided on the web site relates to health issues that ED nurses have to deal with regularly," says **Jane McDonald**, health communications specialist for the NCIPC, a division of the Atlanta-based Centers for Disease Control and Prevention.

The site covers injuries related to motor vehicle crashes, home and recreation incidents, domestic violence, and youth violence. Here are tools you can access on the site:

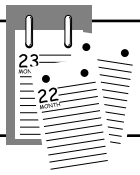
• **Medical information.** The site addresses medical conditions that result from injuries, such as traumatic brain and spinal cord injuries.

• **Publications and fact sheets.** The site features over two dozen fact sheets, which are useful resources for developing injury prevention programs or for patient education, says McDonald.

Most of these materials can be downloaded or ordered using an on-line form. To view a list of over two dozen fact sheets that are available, click on "publications" and then "fact sheets."

• **Consumer information section.** This is offered through the SafeUSA Alliance (www.cdc.gov/safeusa).

"You can refer patients to this site to learn how they can be safe from injuries in the car, on a bicycle, motorcycle, and from pedestrian crashes," says McDonald. **(See listing of upcoming injury prevention conferences, below.)** ■



Upcoming injury prevention conferences

This is a partial listing of upcoming conferences pertaining to injury prevention:

• **July 22-25, 2001** — Seventh International Family Violence Research Conference, Portsmouth, NH. Sponsored by the Family Research Laboratory and Crimes Against Children Research Center. Contact: Family Research Laboratory and Crimes Against Children Research Center, 126 Horton Social Science Center, University of New Hampshire, Durham, NH 03824. Telephone: (603) 862-1888. Fax: (603) 862-1122. Web: www.unh.edu/frl/conf2001home.htm.

• **Sept. 5-7, 2001 —** The 15th Annual California Conference on Childhood Injury Control, San Diego. Sponsored by California Center for Childhood Injury Prevention, San Diego State University. Contact: California Center for Childhood Injury Prevention, 6505 Alvarado Road, Suite 208, San Diego, CA 92120. Telephone: (619) 594-3691. Email: kmjones@mail.sdsu.edu. Web: www.cccip.org.

• **Sept. 10-14, 2001** — Injury Research Methods Course, Seattle. Sponsored by the University of Washington. Contact: University of Washington Educational Outreach, 5001 25th Ave. N.E., Seattle, WA 98105. Telephone: (800) 543-2320 or (206) 685-6503. E-mail: certif2@ese.washington.edu. Web: www.hiprc.org/epi590.

• **Nov. 9-10, 2001** — The First National Conference on Medical Care in Domestic Violence, Dallas. Sponsored by University of Texas Southwestern Medical Center at Dallas, Physicians for a Violence-Free Society, and The Violence Intervention and Prevention Center at Parkland. Contact: Office of Continuing Education, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75390-9059. Telephone: (800) 688-8678, ext. 2 or (214) 648-2166. Fax: (214) 648-2317. Web: www.utsouthwestern.edu/cme/mcdv2001.html.

• **Dec. 3-5, 2001** — Mobilizing for a SafeUSA: A Leadership Conference to Reduce Violence and Injury in America, Atlanta. Sponsored by National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Contact: SafeUSA, P.O. Box 81890, Silver Spring, MD 20907-8189. Telephone: (888) 252-7751. E-mail: sainfo@cdc.gov. Web: www.cdc.gov/safeusa.

• **April 15-17, 2002** — Third National Congress On Childhood Emergencies, Dallas. Sponsored by the federal Emergency Medical Services for Children (EMSC) Program. Contact: EMSC National Resource Center. Telephone: (202) 884-4927. Fax: (202) 884-6845. E-mail: info@emscnrc.com. Web: www.ems-c.org.

May 12-15, 2002 — Sixth World Conference on Injury Prevention and Control, Montreal. Contact: 511 Place d'Armes, Suite 600, Montreal, QC H2Y 2W7, Canada. Telephone: (514) 848-1133. E-mail: trauma@coplanor.qc.ca. Web: www.trauma2002.com. ■

Assess pain in all patients

Do you only assess patients for pain if they respond "yes," when asked if they're having pain? Although this criteria might seem like common sense, it's a mistake, according to **Christine Tarver**, MS, RN, CNS, a clinical nurse specialist at

El Camino Hospital in Mountain View, CA, and co-chair of the hospital's pain management committee.

When the hospital did a patient pain survey, patients were asked, "Are you currently having pain?" Even if the patient stated "no," the next question asks them to rate their pain on a scale of 0-10.

The results were surprising: "Half of the patients said "no," they weren't having pain; however, of 44% of those patients then gave a rating above zero — as high as seven," reports Tarver.

Based on this finding, ED staff now ask for a pain rating using the 0-10 numeric scale for all patients. The question "Are you having pain?" which requires patients to answer yes or no, is skipped.

"We simply ask patients their pain levels," explains Tarver. "If we had stopped at the 'no' response, we would have missed 25% of our patients in pain."

Asking pain level for all patients is the best practice, says Tarver. "In addition, we had our mock surveyors here to prepare us for our Joint Commission survey, and they reinforced that relying on a yes/no response to assess pain is not sufficient," she notes. "Levels need to be documented, even if the level is zero."

[Editor's note: For more information, contact: Christine Tarver, MS, RN, CNS, El Camino Hospital, 2500 Grant Road, Mountain View, CA 94040. Telephone: (650) 988-7596. E-mail: Chris_Tarver@elcamino hospital.org.] ■

5 things you must tell asthma patients

Offer verbal and written information

Does every asthma patient leave your ED with a better understanding of how to control future exacerbations? "Patients should leave the ED with both verbal and written instructions," according to **Karen Huss**, RN, DNSc, CANP, FAAN, associate professor at Johns Hopkins University School of Nursing in Baltimore.

"Asthma has a high morbidity and a significant mortality rate, so asthma control is very important," she adds. Huss recommends addressing the following things when you educate asthma patients:

1. Demonstrate use of inhalers.

Have a hands-on demonstration, Huss suggests. "Having placebo inhalers with cardboard mouthpieces you can put over the delivery end to keep them clean helps," she adds. "The educator should demonstrate, then watch the patient as they do it."

2. Give patients a steroid schedule.

Asthma patients often lack understanding about the course of steroids they are given when they leave the ED. "Often, there is so much information on the prescription label that they become confused," Huss says. "They may not take the steroid at all because they are not educated in how to take it and how it will help."

Huss recommends giving every patient a steroid schedule. "This is like a calendar with every day in a little box," she says. "The number of prednisone tablets they are expected to take daily is written in red."

3. Explain how to use peak flow meters.

For monitoring asthma, ED staff can introduce patients to peak flow meters in the ED, Huss suggests.

"After proper instruction in their use, patients could keep a record of their peak flow at least once a day until the time they see a specialist for follow-up," she adds.

4. Educate patients about use of spacers.

Children benefit from the use of spacers, which make it easier for them to correctly inhale the medication, says **Lisa Molitor**, MSN, ARNP, CEN, CCRN, ED nurse practitioner at Shands at Alachua General Hospital in Gainesville, FL.

"Very small children and babies usually do better with a passive nebulizer machine."

5. Address types of medications.

Huss emphasizes the appropriate use of long-term controllers that the patients should take every day and the quick relief medications that they take only as needed. "It is very important that patients understand the difference," she stresses. ■

SOURCES

For more information about educating asthma patients in the ED, contact:

- **Karen Huss**, RN, DNSc, CANP, FAAN, Johns Hopkins University, School of Nursing, 525 N. Wolfe St., Room 416, Baltimore, MD 21205. Telephone: (410) 614-5296. Fax: (410) 955-7463. E-mail: khuss@son.jhmi.edu.
- **Lisa Molitor**, ARNP, RNC, MSN, CEN, CCRN, 8404 S.W. 28th Place, Gainesville, FL 32607. E-mail: Lmolitorge@aol.com.

Joint Commission warns about infusion pumps

When a patient requires potassium through IV pump, a nurse mistakenly confuses the rate of infusion with the total volume of potassium. The patient receives 60 mEq in 20 minutes — three times the intended amount of potassium in a shorter length of time. The patient dies.

Deaths and near-fatal overdoses from infusion pumps have resulted in a *Sentinel Event Alert* bulletin being published by the Joint Commission on Accreditation of Healthcare Organizations**. (See resource box to obtain a copy of the *Alert,* below left.)**

Expect questions from surveyors

During on-site surveys this year, Joint Commission surveyors will be asking about use of infusion pumps, says **Kathleen Catalano**, RN, JD, director of administrative projects at Children's Medical Center of Dallas and a former consultant specializing in regulatory compliance.

"The ED is at higher risk of adverse outcome if an error occurs, because critical care drugs are often given," she warns.

Here are five recommendations from the U.S. Pharmacopeia, based in Rockville, MD, to avoid adverse outcomes with infusion pumps:

• Identify all pumps with potential for free-flow errors, including those with confusing labeling.

• Sequester/quarantine/phase out the use of unprotected devices.

• Petition the Food and Drug Administration to withhold/withdraw approval of IV pumps that permit free flow.

• Petition manufacturers to stop production and sale of free-flow pumps.

• Continue to report errors associated with the use of IV pumps that do not protect against free flow so that accurate frequency and severity of these errors can be assessed. (Editor's note: Reprinted with permission from the U.S. Pharmacopeia, *Practitioner's Reporting News,* Free-Flow IV Pumps, 7/99, www.usp.org/reporting. Copyright 2001. All rights reserved. For more information about infusion pumps, contact Catalano at Children's Medical Center of Dallas, 1935 Motor St., Dallas, TX 75235. Telephone: (214) 456-8722. Fax: (214) 456-6081. E-mail: kcatal@childmed.dallas.tx.us.) ■

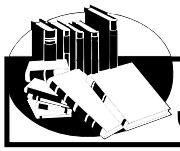
RESOURCES

The Joint Commission's *Sentinel Event Alert*, "Infusion Pumps: Preventing Future Adverse Events," identifies the most common human and mechanical errors associated with infusion pumps and provides recommended steps to avoid such errors. It can be found on-line at www.jcaho.org. (Click on "Patient Safety/Sentinel Events," "Sentinel Event Alert" then "Sentinel Event Alert" again, then scroll down to the Nov. 30, 2000 issue.) You can sign up to receive *Sentinel Event Alert* via e-mail by going to the *Sentinel Event Alert* home page. To get the latest copy of *Sentinel Event Alert* faxed, call the Joint Commission's fax-on-demand line at (630) 792-3885. Press 4. For more information, contact:

- **Joint Commission on Accreditation of Healthcare Organizations**, Customer Service, One Renaissance Boulevard, Oakbrook Terrace, IL 60181. Telephone: (630) 792-5800, between 8 a.m. and 5 p.m. Central Time on weekdays.

The U.S. Pharmacopeia has published an alert on free-flow IV pumps that can be accessed free of charge on the organization's web site (www.usp.org.) Under "Contents," click on "Practitioner Reporting," then click on "Practitioners' Reporting News" and then click on "Med Error Reports." Scroll down and click on "Alert! Free-Flow IV Pumps." MedMARx is an Internet-accessible national database for hospitals to report medication errors, available through the U.S. Pharmacopeia. For more information, contact:

- **U.S. Pharmacopeia,** 12601 Twinbrook Parkway, Rockville, MD 20852. Telephone: (800) 227-8772 or (301) 881-0666. Fax: (301) 816-8122. E-mail: ll@usp.org. Web: www.usp.org.



JOURNAL REVIEWS

Singer AJ, Stark MJ. **LET vs. EMLA for pretreating lacerations: A randomized trial.** *Acad Emerg Med* 2001; 3:223-230.

A topical lidocaine-epinephrine-tetracaine (LET) gel is the most effective anesthetic for repair of lacerations, says this study from State University of New York at Stony Brook.

Sixty patients with uncomplicated, clean traumatic lacerations were given EMLA (eutectic mixture of local anesthetics) cream or LET solution prior to lidocaine injection. Both creams were applied as soon as the patients presented to the triage desk.

The study showed that patients pretreated with LET and EMLA experienced similar reduction of pain with local infiltration of lidocaine. Here are key differences between LET and EMLA that the researchers noted:

• EMLA cream has a slower rate of absorption and onset of anesthesia: approximately one hour compared to 15-30 minutes for LET.

• Early application of LET at triage can reduce the patient's length of stay.

• LET is not contraindicated in open wounds.

• LET is considerably less expensive than EMLA ($1-$2 vs. $8-$16, respectively).

• Topical application of EMLA cream may be associated with rare occurrences of methemoglobinemia.

For the above reasons, the researchers recommend LET as the preferred topical anesthetic. ▼

Quan L, Bennett E, Cummings P, et al. **Do parents value drowning prevention information at discharge from the emergency department?** *Ann Emerg Med* 2001; 37:382-385.

Parents bringing children to the ED were receptive to receiving written drowning prevention messages and were able to recall the material afterward, according to this study from the University of Washington School, Children's Hospital and Regional Medical Center, and Harborview Injury Prevention and Research Center, all in Seattle.

Parents were given computerized discharge instructions that included three prevention messages: wear a life vest, swim in safe areas, and do not drink alcohol while swimming or boating. Parents were contacted by telephone one to two weeks after the visit and asked to recall the prevention messages and rate the usefulness of the instructions.

Of the 619 parents who completed the interview, 50% recalled receiving the information. When asked what the message was about, 41% recalled the life vest messages, 25% recalled the message about drowning risks, and 13% recalled the message about swimming. Of the 155 parents who did not own a life vest, 35% said they would consider buying one for their child because of the information they received. Most parents (88%) said the prevention information was useful or very useful.

Families should receive injury prevention information from multiple sources, including the ED, argue the researchers. They point to new technologies, such as computerized discharge instructions, and a trend toward increased patient interest in health information, both of which enable ED staff to educate large numbers of patients with no additional burden. "The role of the ED in injury prevention has been envisioned as a surveillance tool, but this role can be expanded," they wrote. ▼

Eichhorn DJ, Meyers TA, Guzzetta CE, et al. **Family presence during invasive procedures and resuscitation: Hearing the voice of the patient.** *Am J Nurs* 2001; 101:48-53.

Patients universally say that having a family member present was beneficial during invasive procedures, says this study from Presbyterian Hospital of Dallas.

A total of 43 patients who survived invasive procedures or cardiopulmonary resuscitation with family presence were interviewed two months after the procedure. Each interview was taped and transcribed in

order to find common themes.

Some of the key themes that emerged included the benefits of being comforted by a family member, an understanding of how family presence helps the family remain intact as a unit during a crisis, and the belief that family presence is a right held by both patients and families.

All of the patients interviewed for the study found that family presence was beneficial. "Family members acted as immediate patient advocates and expressed caring. Patients reported that by doing so, family members helped them understand, cope with, and reframe painful and stressful events," wrote the researchers.

Although the study was designed to report both positive and negative opinions about the practice, all the patients found family visitation to be helpful and there were no negative findings. In fact, because of the many benefits they received from family presence, all of the interviewed patients believed it to be their right during acute events. ■

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World Wide Web: http://www.ahcpub.com.
E-mail: customerservice@ahcpub.com.

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Editorial Questions

For questions or comments, call Joy Daughtery Dickinson at (229) 377-8044.

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CE objectives

After reading this issue of *ED Nursing,* the CE participant should be able to:

1. Identify clinical, regulatory, or social issues relating to ED nursing. (See *Are your sickle cell patients in danger? Follow new pain management guide; Save lives with a rapid neuro exam; Journal Reviews; Joint Commission warns about infusion pumps* in this issue.)
2. Describe how those issues affect nursing service delivery.
3. Cite practical solutions to problems and integrate information into the ED nurse's daily practices, according to advice from nationally recognized experts. ■

CE*questions*

For information on participating in *ED Nursing's* continuing education program, contact: American Health Consultants, Customer Service, P.O. Box 740056, Atlanta, GA 30374. Telephone: (800) 688-2421 or (404) 262-7436. Fax: (800) 284-3291 or (404) 262-7837. E-mail: customerservice@ahcpub.com. Web: www.ahcpub.com.

1. Which of the following statements is true, according to guidelines for sickle cell pain management developed by the American Pain Society?
   A. Abdominal, chest, or head pain are all signs of a potential life-threatening emergency.
   B. If a sickle cell patient requests a specific drug, it's a red flag that the patient is a drug seeker.
   C. Most sickle cell pain is nonemergent.
   D. Pain episodes usually are consistent from one episode to the next in the same patient.

2. What do patients with lower cervical spine or upper thoracic spine injuries need to be watched closely for, according to Laura M. Criddle, MS, RN, CS, CEN, CCRN, CNRN, emergency trauma and neurological clinical nurse specialist at Oregon Health and Sciences University?
   A. respiratory deterioration
   B. accessory muscle use
   C. tachycardia
   D. diaphoresis

3. Which of the following is recommended by the U.S. Pharmacopeia regarding the use of infusion pumps?
   A. All pumps with potential for free-flow errors should be identified and phased out.
   B. All infusion pumps should be phased out.
   C. Infusion pumps should not be used for critical care drugs.
   D. Free-flow infusion pumps should only be used for specific drugs.

4. Which is true of anesthetics for repair of lacerations, according to a study published in *Academic Emergency Medicine*?
   A. Topical lidocaine-epinephrine-tetracaine (LET) solution is less effective.
   B. EMLA (eutectic mixture of local anesthetics) cream is less costly than LET.
   C. LET is more effective, but has a slower rate of absorption and onset of anesthesia than EMLA.
   D. LET is not contraindicated in open wounds and is less costly than EMLA.

PUPIL SIZE SCALE

Pupil Reaction: Brisk = ++ Sluggish = + None = - Closed or Swollen Shut = C

Glasgow Coma Scale

DATE / TIME:												**Key: Medications**
INITIAL:												S - SEDATIVE P - PARALYTIC T - TRANQUILIZER P - PAIN MED U - UNTESTABLE
EYES OPEN	Spontaneous	4										
	To Speech	3										
	To Pain	2										
	None	1										
BEST VERBAL RESPONSE	Alert / Oriented	5										T - TRACH / ENDO S - SLURRING DYSPHASIA R - RECEPTIVE E - EXPRESSIVE
	Confused	4										
	Inappropriate Words	3										
	Incomprehensible Sounds	2										
	None	1										
BEST MOTOR RESPONSE	Obeys Command	6										RECORD BEST RESPONSE FROM EITHER ARM
	Localizes Pain	5										
	Withdraws Pain	4										
	Flexion (Pain)	3										
	Extension (Pain)	2										
	None	1										
COMA SCALE TOTAL:												

STROKE ASSESSMENT

	Time / Date:											
	Initial:											
KEY:	✓ Normal Assessment * Abnormal - See Focus Note > Previously Described Abnormal											
Level of Consciousness	Alert											
	Fully Arousable											
	Briefly Arousable											
	Opens Eyes Only											
	Unresponsive											
	Orientation											
Speech	Clear											
	Dysarthric											
	Expressive Aphasia											
	Receptive Aphasia											
Pupils React	(R) Size - Reaction											
	(L) Size - Reaction											
	Blink											
Facial Movement	Wrinkles / Forehead											
	Opens / Closes Eyes											
	Smiles / Shows Teeth											
	Tongue Movement											
	Swallow / Gag Intact											
Bilateral Touch	Shoulders											
	Lower Leg / Foot											
Hand Grasp to Command	R											
	L											
Wiggles Toes to Command	R											
	L											

Initial	Name	Initial	Name	Initial	Name	Initial	Name

*____ 11/98 6030-7B

COMMUNITY MEDICAL CENTER
STROKE ASSESSMENT / GLASGOW COMA SCALE
NEUROLOGICAL GUIDELINES FLOW SHEET

NEUROLOGIC GUIDELINES FLOW SHEET - STROKE PATHWAY

DIRECTIONS FOR USE:

1. Enter correct time and date on line.
2. Record all neurological information vertically.
3. Record ✔ for all correct responses.
4. Record * for abnormal responses and/or significant change from the baseline and expand further in Progress Notes.
5. Motor response to commands requires the ability to interpret verbal commands and perform specific movements on request such as "put out your tongue" or "let go of my hand."

GLASGOW COMA SCALE:

Record patient's single best response in each category. Several attempts at each level may be necessary. If the patient is untestable in a certain category, record "U" and provide explanation in the nurses' Notes section of the chart, i.e. U = Inability to open or close eyes from periorbital edema, lid paralysis or protruding eyes.

Eyes Open: (Assessment of the stimulus required to induce eye opening)

Spontaneous:	With no further stimulation, patient has eyes open.
To Voice:	If patient's eyes are unopened, a request to "open your eye" should be spoken. If his eyes are then opened, the action can be considered a response to voice stimulation.
To Pain:	If verbal stimulation is unsuccessful in eliciting eye opening, the standard stimulus is applied.
None:	No eye opening.

Best Verbal Response:

Alert/Oriented:	After patient is aroused, ask who he is, where he is and what year and month are. If accurate answers are obtained, patient is recorded as oriented.
Confused:	Although patient is unable to give correct answers to previous questions, he is capable of producing phrases, sentences and even conversational exchanges.
Inappropriate Words:	Patient speaks or exclaims only a word or two (often curses). Such a response is usually obtained only by a physical stimulus rather than a verbal stimulus.
Incomprehensible Sounds:	Patient's response consists of groans, moans or indistinct mumbling and does not contain any intelligible words.
None:	Prolonged and, if necessary, repeated stimulation does not produce any phonation.

Best Motor Response:

Obeys Command:	This requires ability to comprehend instructions, usually given in some form of verbal commands but sometimes by gestures and writing. Patient is required to perform specific movements requested.
Localizes Pain:	If patient does not obey commands, painful stimulus may be applied, e.g., firm pressure to sternum or nail bed for five seconds. If patient localizes pain he reach to and/or tries to remove source of pain.
Withdraws:	After painful stimulation: elbow flexes, rapid movement, no muscle stiffness, arm is drawn away from the trunk.
Flexion Response:	After painful stimulation: elbow flexes, slow movement, accompanied by stiffness, forearm and hand held against body. (Decorticate)
Extension Response:	After painful stimulation: legs and arms extend, accompanied by stiffness, internal rotation of shoulder and forearm. (Decerebrate)
Coma Scale Total:	Total score from each of the 3 seconds of the Coma Scale to arrive at total Glascow Coma Score. (Glascow Coma Scale less than 8 = coma)

STROKE ASSESSMENT:

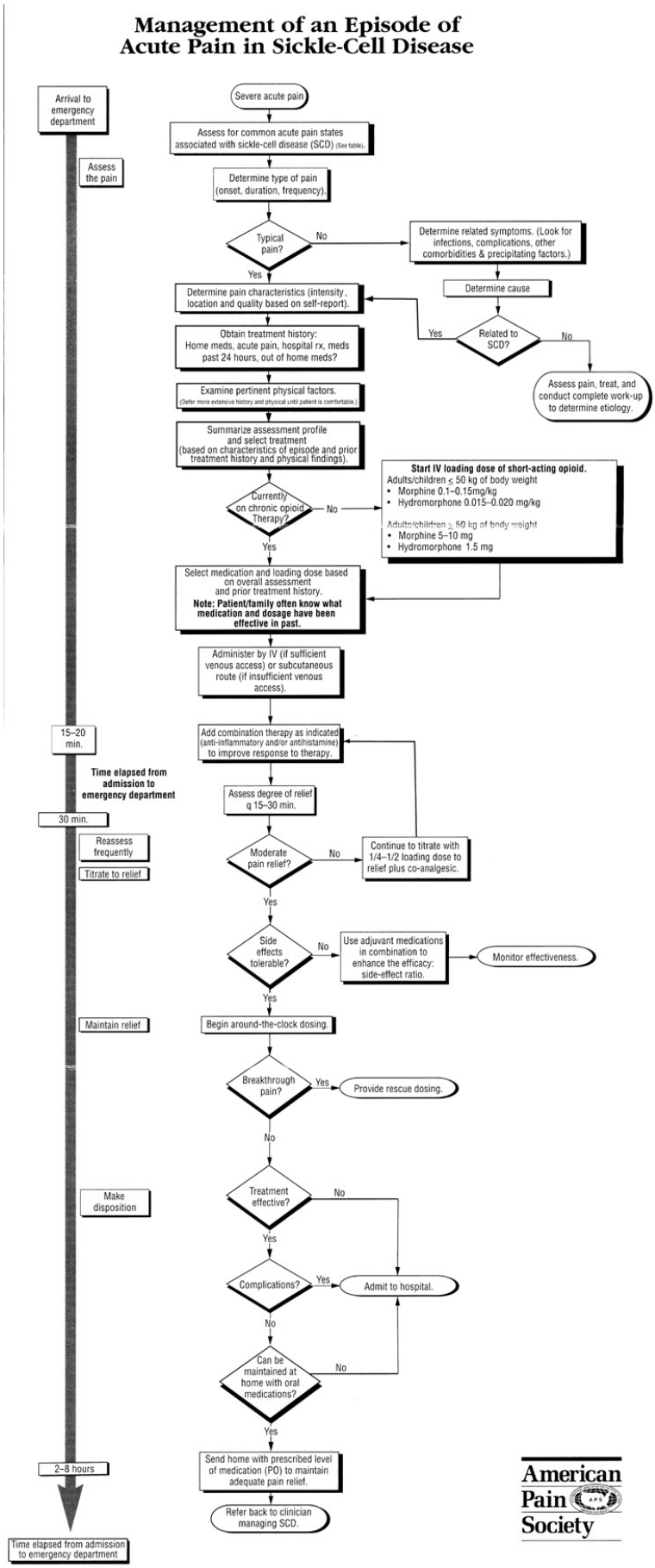
Level of Consciousness:

Alert	Patient awake, alert, eyes open at patient initiation without outside stimulation.
Fully Arousable	Becomes alert and remains awake and alert when name called.
Briefly Arousable	Patient's eyes open in response to speech (command), but falls back to sleep.
Opens Eyes Only	Eyes open only to noxious painful stimuli.
Unresponsive	Patient's eyes do not open, or if eyes are open it is due to flaccid muscles.
Orientation	✔ If appropriate and oriented to person, place, time (anyone can forget the day). *If confused, inappropriate, incomprehensible, or none. Document in Progress Notes more specifically.

Speech: (Assess quality of speech)

Clear	Speech clear, no slurring of words or searching for words to express thoughts.
Dysarthric	Difficulty articulating words. Words are slurred.
Expressive Aphasia	May be able to understand phrases/follow commands, but not able to express words. Words or phrases may make little or no sense.
Receptive Aphasia	Not able to comprehend words spoken; confusion in following commands. Responds inappropriately when spoken to. Make sure patient does not have hearing impairment; or have hearing aids or that interpreter is available.
Pupils React:	If eyes are swollen shut or otherwise untestable, write the letter "U" in the size space. **NOTE: Measure pupil size before testing for light reaction.**
Facial Movement:	✔ If able to do: wrinkle forehead, open and close eyes, smile and show teeth, put out tongue, and swallow. * If unable to do, or if asymmetry occurs (one side weaker than other),
Bilateral Touch:	✔ If patient feels examiner touch shoulders and numbness absent. ✔ If patient feels examiner touch lower leg/foot and numbness absent. * If sensation not perceived, or numbness present:.
Hand Grasp:	✔ If patient able to squeeze and release examiner's hand on command, and strength is equal and strong. * If not able to follow command or if grasp is weak (one weaker than the other, or bilaterally weak).
Wiggles Toes:	✔ If able to wiggle toes on both feet to command * If not able to wiggle toes on both feet.

Source: Community Medical Center, Tallahassee, FL.



Source: American Pain Society, Glenview, IL.

American Health Consultants
Education and Training Fax-back Survey

We would like to learn more about training and education needs for you and your staff. Please circle the number corresponding to your level of interest in the following topics.

	No Interest		Some Interest		Much Interest
HIPAA privacy rules	1	2	3	4	5
Stark II	1	2	3	4	5
EMTALA	1	2	3	4	5
Aftermath of ergonomics	1	2	3	4	5
OSHA compliance	1	2	3	4	5
Post-exposure prophylaxis	1	2	3	4	5
Influenza update	1	2	3	4	5
Antibiotic resistance	1	2	3	4	5
Adverse drug reactions	1	2	3	4	5
Drug interactions	1	2	3	4	5
Medication errors	1	2	3	4	5
Herb-drug interactions	1	2	3	4	5
Nosocomial infections	1	2	3	4	5
Patient falls	1	2	3	4	5
Basic information for frontline workers	1	2	3	4	5
Needlesticks	1	2	3	4	5
Latex sensitivity	1	2	3	4	5
TB compliance	1	2	3	4	5
Restraints and the violent patient	1	2	3	4	5
Pain management	1	2	3	4	5

	No Interest		Some Interest		Much Interest
Palliative care	1	2	3	4	5
End-of-life care	1	2	3	4	5
Assisted suicide	1	2	3	4	5
Genetic testing	1	2	3	4	5
Organizational ethics	1	2	3	4	5
Human research protection	1	2	3	4	5
Informed consent documentation	1	2	3	4	5
New accreditation standards	1	2	3	4	5
Observation units (23-hour care or recovery beds)	1	2	3	4	5
ED diversion	1	2	3	4	5
Avoiding lawsuits: What to say when something goes wrong	1	2	3	4	5
Improving documentation for nurses and physicians	1	2	3	4	5
Nursing shortage	1	2	3	4	5
Bioterrorism	1	2	3	4	5
Disaster planning and mass casualties	1	2	3	4	5
Safety and security	1	2	3	4	5

What training format is preferred for you and your staff? Rate the following methods using the scale below.

	Least Preferred				Most Preferred
On-site speakers	1	2	3	4	5
Travel off-site to live conferences	1	2	3	4	5
Subscription-based newsletters/journals	1	2	3	4	5
Outside-sponsored teleconferences	1	2	3	4	5
Outside-sponsored videoconferences	1	2	3	4	5
Web-based conferences	1	2	3	4	5
Resource books	1	2	3	4	5
Other _____	1	2	3	4	5

What is your title?_____

To what American Health Consultants' newsletter(s) do you subscribe? _____

_____

Thank you for your assistance.

Please fax your completed form to (800) 850-1232 by August 1, 2001.