LOS ANGELES UNIFIED SCHOOL DISTRICT
Student Health and Human Services
District Nursing Services

AUTONOMIC DYSREFLEXIA: EMERGENCY PROCEDURE (HYPERREFLEXIA)

I. GENERAL GUIDELINES

A. PURPOSE

1. To lower blood pressure by identifying and removing precipitating stimuli associated with uncontrolled autonomic dysreflexia in students with high spinal cord lesion.
2. To provide emergency care for blood pressure elevated 15-40 mm Hg above pupil's baseline.

B. GENERAL INFORMATION

1. **Acute autonomic dysreflexia is a potentially life-threatening complication of spinal cord lesion/injury at or above the fifth thoracic vertebra (T5). Individuals with a spinal cord injury between the sixth through tenth thoracic vertebrae (T6-T10) maybe susceptible. Individuals with a newer injury are more likely to experience autonomic dysreflexia than someone with an older injury. THIS IS A MEDICAL EMERGENCY.**
2. An irritating stimulus below the level of the injury triggers an autonomic nervous system reflex, causing vasoconstriction and acute hypertension.
3. Signs and symptoms of acute autonomic dysreflexia are:
   a. Elevated blood pressure (20 mm Hg or more above the student's baseline blood pressure). Most quadriplegics will have a BP of 90/60 or lower in the sitting position.

ELEVATED BLOOD PRESSURE (both systolic and diastolic)	
Adult	20-40 mm Hg above baseline systolic blood pressure. Normal systolic blood pressure for individual with spinal cord injury above T5 is in the 90-110 mm Hg range.
Adolescent	15-20 mm Hg above baseline systolic blood pressure
Child	More than 15 mm Hg above baseline systolic blood pressure

   b. Pounding headache.
   c. Diaphoresis (sweating) above the level of injury, which usually begins over the forehead and face, spreading to both arms and the chest.
   d. Goose bumps.
   e. Flushing or blotching of the face and upper extremities.
   f. Chills without fever.
   g. Bradycardia (slow heart rate).
   h. Cardiac arrhythmias (irregular heart rhythm).
   i. Blocked nasal passages.

4. Causes of Dysreflexia are:
    a. Distention of bladder.
    b. Fecal mass in the rectum.
    c. Other stimuli to viscera such as painful skin irritations (cuts, burns, bruises, abrasion, sunburn, or pressure on the body), ingrown toenail, tight or restrictive clothing, shoes, or braces and menstrual cramps.
5. This condition can develop suddenly and may lead to seizure, stroke and death unless treated promptly and correctly.
6. **Parents must always be notified when this procedure is implemented.**

C. PRECAUTIONS
1. Monitor student carefully to prevent occurrence of stimuli which cause dysreflexia.
2. School nurse should establish student's baseline blood pressure, pulse and respirations annually as follows:
    a. Have the student in a sitting position.
    b. Obtain morning and/or afternoon readings of each vital sign for five consecutive school days.
    c. Determine the average reading, record average reading in electronic health record and on emergency response procedure.
    d. Monitor periodically.

D. PERSONNEL
1. School nurse, licensed nursing provider (RN or LVN), school physician.
2. Designated school personnel under direct or indirect supervision of the school nurse.
3. If school nurse is not present, call paramedics.

E. EQUIPMENT
1. Provided by parent:
    a. Water soluble lubricant
    b. Topical anesthetic ointment (such as Nupercainal ointment) if ordered
    c. Student-specific catheterization supplies
        i. Clean intermittent catheterization supplies
        ii. Foley catheter Fr._____ and supplies
    d. Irrigating solution if prescribed by licensed healthcare provider
    e. Sterile syringe (capacity for 30cc irrigating solution)
2. Provided by school:
    a. Blood pressure measurement equipment
    b. Stethoscope
    c. Disposable non-latex gloves

d. Plastic bag for disposal of waste

e. Container for collecting and measuring urine or fecal matter

II. PROCEDURE

ESSENTIAL STEPS	KEY POINTS AND PRECAUTIONS
1. Determine whether student has symptoms of dysreflexia. Take student's blood pressure. DO NOT LEAVE STUDENT ALONE IF DYREFLEXIA IS SUSPECTED.	Signs & Symptoms: Elevated blood pressure, pounding headache, bradycardia (slow heartbeat), cardiac arrhythmias (irregular heartbeats), profuse sweating, goose bumps, flushing/blotching of skin, blurred vision, sees spots, nasal congestion, anxiety/apprehension, nausea/abdominal discomfort.
2. Call for school nurse and/or designated staff to help. **If school nurse is not available, call 911.**	
3. If blood pressure is above _____, instruct designated staff to call 911 emergency services for immediate transport to emergency care facility. Inform paramedics that autonomic dysreflexia is suspected.	Specific level of emergent blood pressure is determined by age (15-20 mm Hg above baseline).
4. Stay calm and provide calming measures for the student. Place student in an upright sitting position. Remove abdominal binder or restrictive clothing.	Placing student in upright position allows the blood to pool in the lower extremities, reducing blood pressure.
5. Monitor blood pressure every 3-5 minutes. Record time and reading each time blood pressure is taken.	Record on *Autonomic Dysreflexia Management Log.*
6. Check for irritating stimulus: a. Check clothing for wrinkles • **Male student:** ascertain position of scrotum. • **Female student:** inquire about menstrual cycle.	Episode may be precipitated by an irritating stimulus: • Many wrinkles on clothing can cause pressure which may lead to an autonomic reaction. • Pressure on scrotum or menstrual cramping may cause an autonomic reaction.

ESSENTIAL STEPS	KEY POINTS AND PRECAUTIONS
7. If authorized, clean intermittent catheterization maybe performed to relieve possible bladder distention. If topical anesthetic gel is ordered, clean intermittent catheterization is performed by licensed nurse only. Follow licensed nurse's direction.	Do not force catheter. Measure output. • Have designated staff assist with blood pressure monitoring while preparing for and attempting catheterization. • Stop catheterization if this stimulation causes a marked increase in blood pressure. • Drain bladder gradually 400-500 cc at a time. Wait 10 minutes between each subsequent drainage.
8. If catheterization or other interventions to eliminate stimulus are successful and blood pressure decreases to normal range, monitor student closely for at least 3-4 hours. • Observe for return of signs and symptoms. • Take blood pressure every 30-60 minutes.	Licensed nurse may be authorized to provide additional interventions and/or administer prescribed medication. Stay in contact with school nurse for continued direction.
9. If bladder is empty and symptoms have not subsided, student may have a full fecal impaction.	This procedure requires an Individualized Treatment Plan with specific orders from the licensed healthcare provider.
10. <u>If no orders are received, CALL PARAMEDICS</u>.	
11. Dispose of waste materials.	Universal Precautions require that all waste material be double bagged.
12. Remove gloves and wash hands.	
13. Notify parents.	
14. Document procedure indicating: • Blood pressure, steps taken. • Amount of urine drained. • Response of student.	School Nurse to document on electronic health record.

ADDITIONAL INTERVENTIONS PROVIDED BY LICENSED NURSE ONLY **STANDARD HEALTHCARE PROCEDURES AND AUTHORIZATION REQUIRED** **PROVIDE AUTHORIZED INTERVENTIONS IF BLOOD PRESSURE BETWEEN _____AND _____.**	
ESSENTIAL STEPS	**KEY POINTS AND PRECAUTIONS**
1. Student with indwelling catheter: • Inspect catheter and drainage tubing for kinks. • Check that plug or clamp has been removed. • Check that leg bag is not overfull. • Check inlet to leg bag for corrosion.	Drain bladder gradually 400-500 cc at a time. Wait 10 minutes between subsequent drainages.
2. If bladder is empty and symptoms have not subsided, check for fecal impaction.	**Standard Healthcare Procedure is required.**
3. Administer prescribed medication if BP is above _____: • Medication: _____ • Dose: _____ • Route: _____	Pupil –specific instructions:
4. If blood pressure has not decreased after 5 minutes, **call 911** emergency services to transport student to emergency facility.	

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Date

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REFERENCES:

California School Nurses Organization: The Green Book: California Guidelines for Specialized Physical Healthcare Procedures in School Settings, 2nd Edition (4/11), Sacramento, CA