

Migraine Guideline

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Definition:

Migraine is the most common acute and recurrent headache syndrome in children. It is a moderate-to-severe headache that lasts from 2 to 72 hours. It is characterized by episodes of severe headache often accompanied by nausea, vomiting, photophobia, phonophobia, movement sensitivity, lightheadedness and abdominal pain. (PMID: 29368949)

Incidence:

Approximately 1 billion people worldwide suffer from migraine. (PMID: 30353868) It has an estimated 1 year prevalence of 10% in children aged 5-15 years. Migraine occurs equally in males in females prior to puberty, however after puberty, females are 3 times more likely to develop migraine than males.

Epidemiology:

Migraine is the 2nd leading cause of years lost due to disability. Considering all conditions and disorders, migraine is the #1 cause of disability in people ages 15-49 years. Also migraine prevalence increases with decreasing income. Adolescents with a household income of less than \$22,500 per year have a migraine prevalence nearly double that of adolescents with a household income greater than \$90,000 per year. (PMID: 17606878)

Etiology:

Migraine is a genetic, neurologic disorder that results in increased sensitivity to non-noxious stimuli. Elevations in pain-specific proteins such as calcitonin gene-related peptide (CGRP) have been shown to cause migraine. (PMID: 30827155) A range of potential triggers are known to influence the onset of migraine.

- Hormonal changes: (Menstruation) normal hormonal changes caused by the menstrual cycle can trigger migraine.
- Emotional triggers: Stress (changes in school or family), depression, anxiety, excitement, and shock can trigger a migraine.
- Physical causes: irregular sleep, poor posture, and physical overexertion
- Medications: Some medications such as asthma treatments, and stimulants (including many used to treat attention-deficit hyperactivity disorder [ADHD]), may occasionally trigger a migraine.
- Triggers in the diet: Alcohol and caffeine can contribute to triggering migraine. Some specific foods can also have this effect, including foods containing nitrates, MSG, and tyramine. Irregular mealtimes and dehydration have also been named as potential triggers.

Guideline Inclusion Criteria:

Child or Adolescent presenting with headache.

Guideline Exclusion Criteria:

- Abnormal neuro exam
- < 6 years old
- < 6 mo headache history
- Atypical presentation i.e. thunderclap

- Progressive severity in ED
- Positional/sleep related headache
- New or worst headache
- Different from typical headache
- Pregnancy
- High risk populations – critically ill, immunocompromised, sickle cell, coagulopathy, etc

Diagnosis:

To diagnose migraine, a patient must have at least 5 attacks that fulfil the below criteria. To diagnose chronic migraine, the patient must satisfy the below criteria, have headaches at least 15 days per month and have at least 8 migraine attacks per month. (PMID: 29368949)

Headache attacks lasting 2 -72 hours (untreated or unsuccessfully treated)

- Headache has at least 2/4 characteristics:
 - unilateral location (typically bilateral in children)
 - pulsating quality
 - moderate or severe pain intensity
 - aggravation/avoidance of routine activity (e.g. walking)
- During headache at least one of the following:
 - Nausea and/or vomiting
 - Photophobia AND phonophobia (can be inferred from their behavior)
- Not attributed to another disorder.

Aura associated with migraine is a reversible, neurologic phenomenon that occurs in up to one-third of migraineurs. The most common aura subtypes include visual (90% of aura), sensory and language aura while motor (hemiplegic migraine), brainstem and retinal aura are less common.

Diagnostic Evaluation:

History:

History is essential in distinguishing a primary headache disorder such as migraine from a headache due to increased intracranial pressure or systemic illness. The parents’ observation of the younger child during an attack may be quite helpful in inferring associated headache features. The red flag features listed below increase the probability of a secondary headache disorder. The mnemonic “SNOOPY” is used to recall secondary causes of headache.

Differential Diagnosis:

Table 1: Red Flag Headache Features and Differential Diagnosis

<u>S</u>ystemic signs and symptoms	ex. Severe hypertension, seizure, fever, altered mental status, recurrent vomiting, weight loss, arthritis
<u>N</u>eurological signs and symptoms	ex. Optic disc edema, trouble with vision, lack of coordination or new clumsiness, impairment in strength on one side, impairment in level of consciousness or persistent vomiting
<u>O</u>nset is sudden	ex. Thunderclap headache - suggests vascular etiology

<p>Previous headache history absent: (new, firsts, worst or different) Progressive or persistent headache Precipitated by pressure (Valsalva/Cough/position change) Pregnancy</p>	<p>ex. First ever severe headache, worst ever headache, not responding to OTC treatment ex. increasing in frequency or severity ex. made worse by coughing, exertion</p>
<p>Younger</p>	<p><6 years old</p>

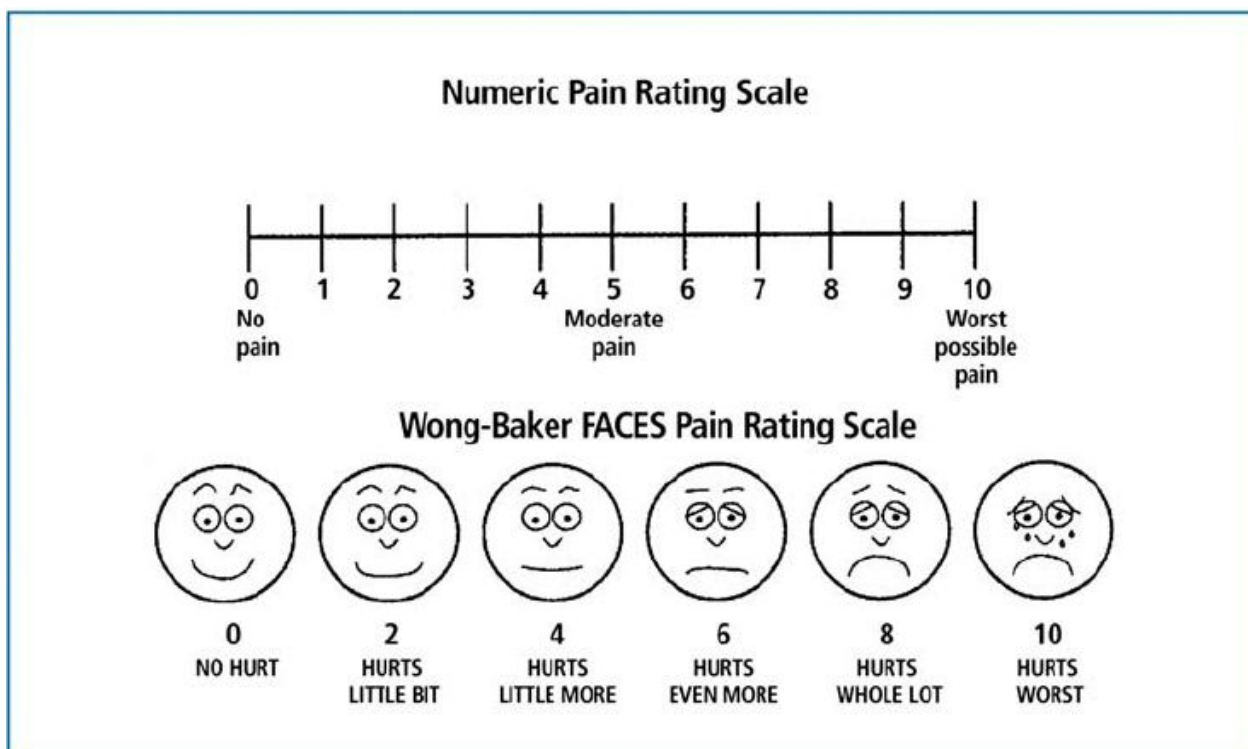
Physical Examination: The typical physical exam in a child with pediatric migraine is a normal neurologic exam. The focus is on delineating red flag symptoms such as focal neurologic symptoms, signs of increased intracranial pressure (papilledema, abnormal vital signs), signs of acute infection (meningismus, altered mental status).

The exam should focus on:

- Mental status
- Cranial nerves
- Ophthalmologic exam including fundoscopic exam
- Motor Exam
- Deep tendon reflexes with plantar response
- Sensory Exam
- Cerebellar exam
- Gait testing

Classic Signs and Symptoms: Aura, when present are usually visual and although can precede headache, headache is often present at the time of aura. See diagnosis section for diagnostic criteria. Bifrontal, bitemporal and generalized headache are common complaints in children. Nausea as well as sensitivity to light and noise are also common.

Pain scale:



Critical Points of Evidence

Evidence Supports

- For moderate to severe headache due to migraine, patients should be offered a migraine cocktail consisting of IV prochlorperazine, IV ketorolac, diphenhydramine, and IV fluids. (PMID 25624377, PMID: 23406529)
- Routine imaging is not recommended for primary headache disorders such as migraine. (AAN headache imaging guidelines, PMID: 29908647)

Evidence Lacking/Inconclusive

- Most migraine preventive treatments in children have not undergone rigorous clinical trials (PMID: 31413170)

Evidence Against

- Opioids and barbiturates should not be used in the treatment of pediatric migraine. (PMID: 31529481)
- Using ibuprofen or acetaminophen 15 or more days per month. This may result in medication overuse headache. (PMID: 31273078)

Practice Recommendations and Clinical Management

Laboratory Testing - Unless there is concern for dehydration or other systemic disorder, routine laboratory studies are not needed for migraine management. If a female patient is post-menarcheal, a urine pregnancy test should be considered prior to treatment.

Imaging - In cases of a chronic and stable headache disorder such as migraine, neuroimaging is not indicated. Brain MRI is typically preferred over head CT. Imaging is based on the above red flag headache features as well as imaging recommendations from Table 2.

Table 2: Indications for Imaging

Absolute	Relative
Thunderclap onset	Headache awakens from sleep
Seizure with onset	Significant change in headache characteristics or frequency
Acute focal neurologic deficits	Abnormal vital signs (eg. fever, hypertension with bradycardia)
Optic disc edema	High risk populations (eg. sickle cell disease, history of malignancy, autoimmune disorder, coagulopathy, heart or vascular disease, immunodeficiency, recent trauma, neurocutaneous disorder, connective tissue disorder)
Positional (immediately worse with lying down or standing)	New Daily Persistent Headache
	Under 6 years of age

	Side-locked
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Pain Management

Refer to Primary Headache Disorder (ED Pathway) and Addendum 3: Medication and Dosing.

Consults/Referrals: Referral or consultation should be considered for patients with atypical symptoms, abnormal neurologic exams, a change in headache pattern or any seizures. Patient's failing standard ED management for improvement to return to function may need neurology consultation prior to admission. Ophthalmology or neurosurgery may need to be consulted depending on the clinical scenario.

Admission Criteria: Patients with atypical symptoms for classic pediatric migraine, associated seizures, red flag symptoms or failing to respond to standardized ED treatment.

Discharge Criteria: Tolerating liquids, functional improvement to be able to be cared for at home (does not need to be pain free), ability to follow up with primary care, no red flag signs or symptoms.

Follow-Up Care: Generally recommended to follow up with a primary care doctor within the following week after discharge from the ED or inpatient setting.

Prevention: Preventative care includes focus on non-pharmacologic, lifestyle measures such as adequate sleep, hydration, nutrition, regular exercise, and in some cases keeping track of the headache pattern with a diary or smartphone app such as [Migraine Buddy](#). Avoid overusing medications such as Tylenol or Ibuprofen, the limit should be no more than 14 days per month.

SMART Habits: Educate on the importance of healthy behaviors and stress reduction strategies to reduce pain and prevent recurrence of headache.

Sleep: At least 8 hours (teens need more), go to sleep and awaken around the same time

Meals: At least 3, don't skip, drink plenty of fluids

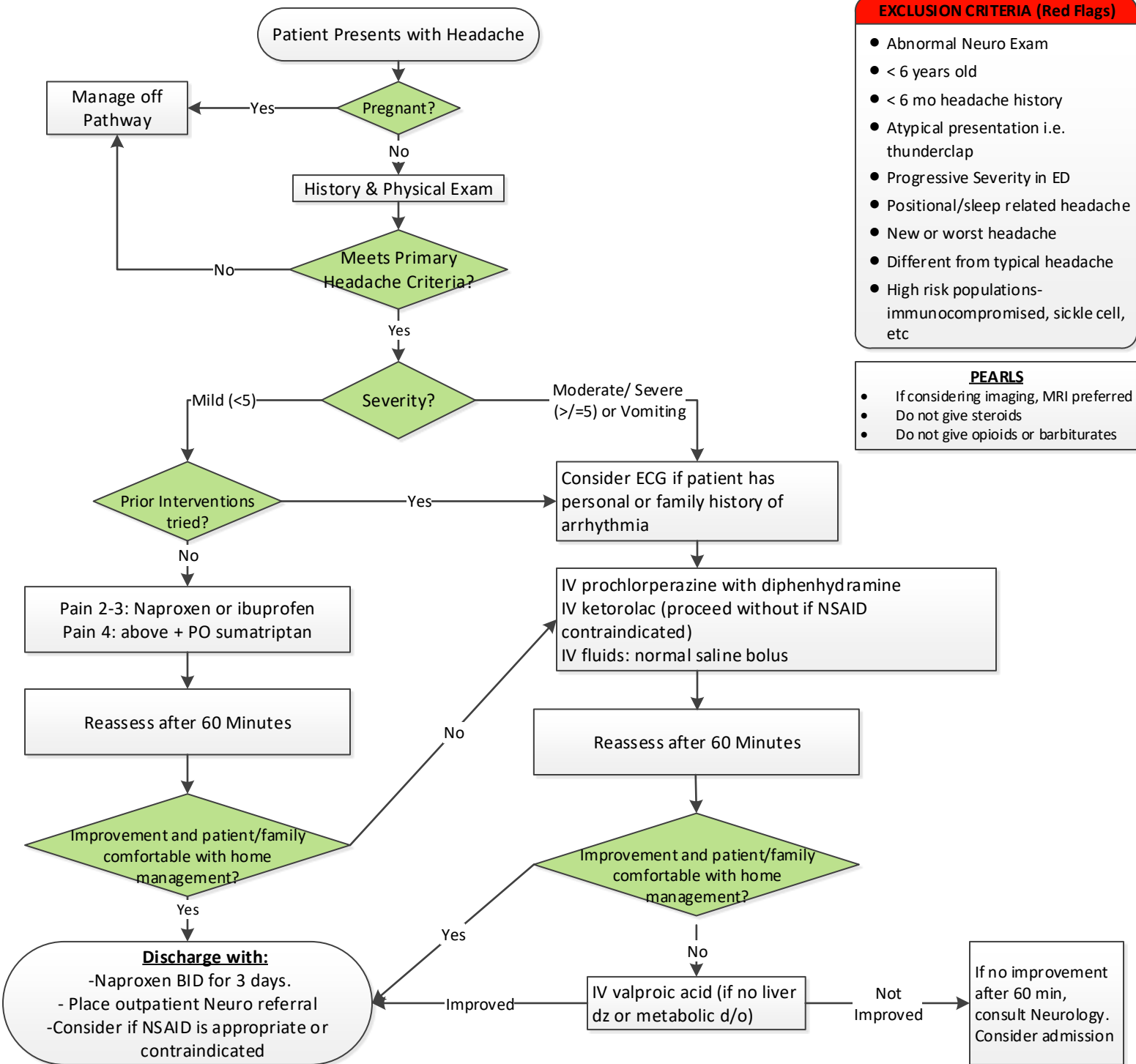
Activity: Exercise is really effective for treating and preventing headache

Relaxation: Music, massage, compresses, breathing, yoga, meditation

Triggers: Recognize them. It may be helpful to use the Headache Diary

Outcome Measures:

- 1) Duration of stay in ED
- 2) Admission rate for primary headache (i.e. migraine)
- 3) % Migraine Order Set use
- 4) % of 7 and 30 day readmissions



- EXCLUSION CRITERIA (Red Flags)**
- Abnormal Neuro Exam
 - < 6 years old
 - < 6 mo headache history
 - Atypical presentation i.e. thunderclap
 - Progressive Severity in ED
 - Positional/sleep related headache
 - New or worst headache
 - Different from typical headache
 - High risk populations- immunocompromised, sickle cell, etc

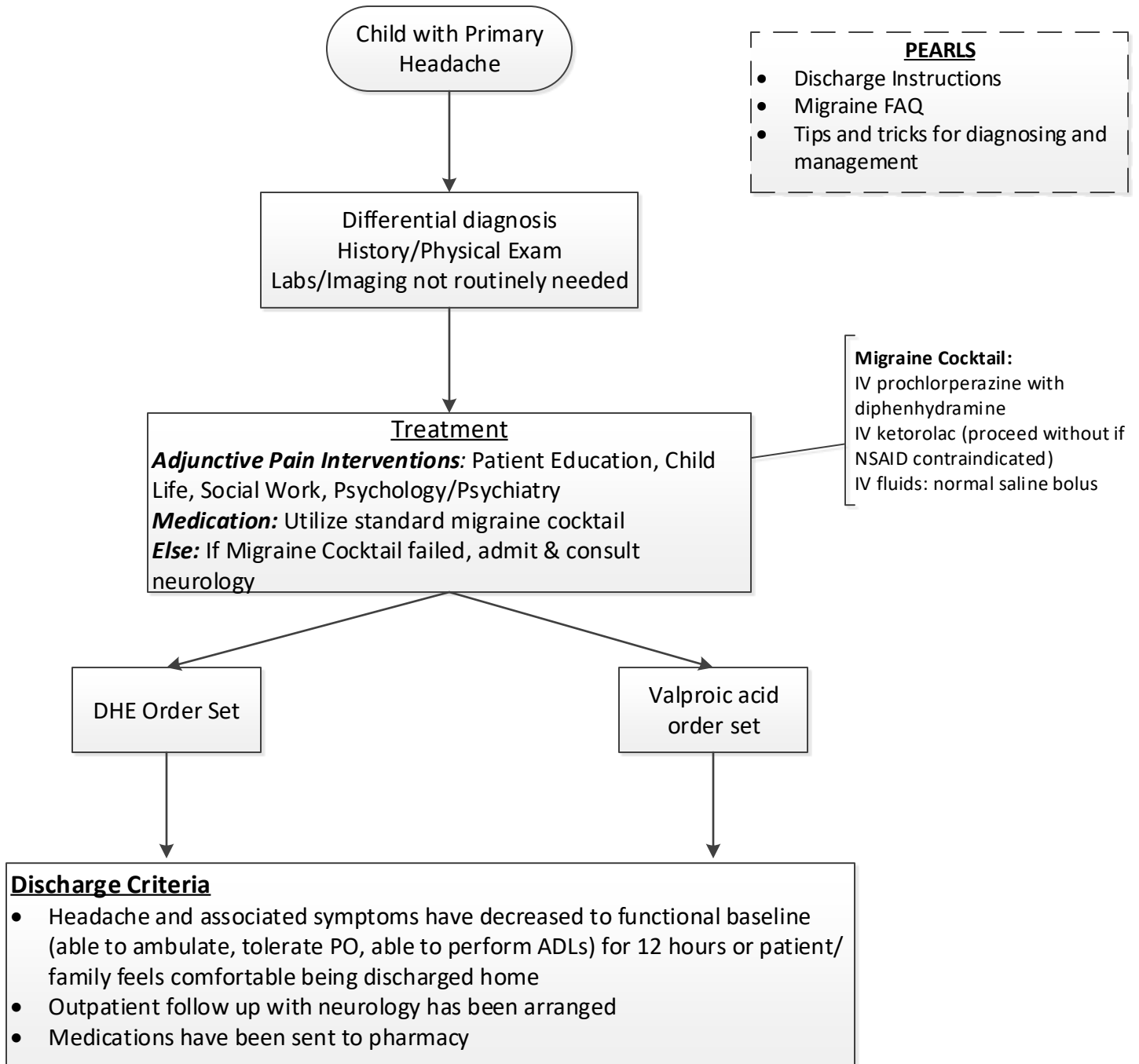
- PEARLS**
- If considering imaging, MRI preferred
 - Do not give steroids
 - Do not give opioids or barbiturates

- Enteral Medications**
- Acetaminophen 15 mg/kg PO (max 1 g)
 - Ibuprofen 10 mg/kg PO (max 800 mg)
 - Naproxen 10 mg/kg PO (max 660 mg)
 - Ondansetron 0.15 mg/kg PO (max 8 mg)
 - Diphenhydramine 0.5 mg/kg PO (max 50 mg)

- IV Medications**
- Acetaminophen 15 mg/kg IV (max 1 g)
 - ketorolac 0.5 mg/kg PO (max 30 mg)
 - prochlorperazine 0.15 mg/kg IV (max 10 mg)
 - Ondansetron 0.15 mg/kg IV (max 8 mg)
 - Diphenhydramine 0.5 mg/kg IV (max 50 mg)
 - Normal saline bolus 20 ml/kg IV (max 1 L)
 - Valproic acid 20 mg/kg IV (max 1,000 mg)

- Treatment of Dystonic Reaction**
- Diphenhydramine 0.5 mg/kg IV (max 50 mg)

- Triptans**
- Rizatriptan tab or MLT (6-17 yo)
 - 20-39 kg = 5 mg PO
 - 40 kg = 10 mg PO
 - Zolmitriptan nasal spray (12-17 yo)
 - 20-39 kg = 2.5 mg
 - 40 kg = 5 mg
 - Sumatriptan PO
 - <40 kg = 25 mg PO
 - >40 kg = 50-100 mg PO
 - Sumatriptan nasal spray
 - 20-39 kg = 10 mg
 - 40 kg = 20 mg
- ***Contraindicated in CV dz, stroke, or pregnancy



Addendum 1: Frequently Asked Questions about Migraine

The following is a brief FAQ of common questions that come up regarding treatment of primary headache disorders such as migraine. This document is meant to spark discussion amongst your departments to help staff set standard expectations and language around treatment. The answers below were approved and created in a multidisciplinary fashion with Neurology, the ED, PCRS, PICU, Pharmacy and Nursing.

How common is migraine?

- Approximately 1 billion people worldwide suffer from migraine
- Prior to puberty, girls and boys have a similar migraine prevalence. After puberty, young women are 3 times more likely to develop migraine⁷
- 15% of the population has migraine. It can start as early as 2-3 years of age.

How disabling is migraine?

- It is the 2nd leading cause of years lost due to disability⁵
- Considering all conditions and disorders, migraine is the #1 cause of disability in people ages 15-49 years⁵

What are the symptoms of migraine?

- Typical symptoms include a bilateral headache with associated potential sensitivities to light, sound, smell, movement and may have associated nausea, vomiting, fatigue and dizziness.
- The diagnosis of migraine is made clinically.

What are the diagnostic criteria for migraine?

- Headache attacks lasting 2 -72 hours (untreated or unsuccessfully treated)
- Headache has at least 2/4 characteristics:
 - unilateral location (typically bilateral)
 - pulsating quality
 - moderate or severe pain intensity
 - aggravation/avoidance of routine activity (e.g. walking or climbing stairs)
- During headache at least one of the following:
 - nausea and/or vomiting
 - light and sound sensitivity (can be inferred from their behavior)
- Not better accounted for by another disorder.

How do we work up migraine?

- **Migraine does not require a head CT, brain MRI or EEG.**
- Work up such as a brain MRI and/or lumbar puncture is only indicated for atypical or worrisome signs or symptoms such as: an abnormal neurologic exam, if there is onset of sudden severe

headache, a significant change to the headache pattern, has associated seizure, confusion, or if there are any major vital sign abnormalities.

What is the cause of migraine?

- Migraine is a genetic, brain (neurologic) disorder.
- Migraine is not a vascular disorder.
- Elevations in pain-specific proteins such as calcitonin gene-related peptide (CGRP) have been shown to cause migraine. There are a range of treatment strategies that reduce CGRP.

What are common migraine triggers?

- Bright lights, loud sounds, strong smells, dehydration, weather change, meal skipping, stress, illness, and poor sleep.
- Certain foods may be craved prior to a migraine onset and some people associate that food with triggering a migraine.
 - Food triggers such as gluten and chocolate are fairly uncommon but things such as excessive caffeine consumption, monosodium glutamate (MSG) and nitrates from cured meats are more common.

How do we treat primary headache disorders, such as migraine, in the Emergency Dept or hospital?

- An algorithm has been developed that triages patients in the emergency department depending based on the severity of the pain. For mild headache, patients will be offered simple analgesics such as naproxen with the potential for adding in a triptan if needed. For moderate to severe headache, patients will be offered an IV migraine cocktail which typically includes prochlorperazine (Compazine), ketorolac (Toradol), and IV fluids.
- A small percentage of these patients will require inpatient admission for management of their primary headache disorder. Order sets for these patients have also been updated.
- Expectations of treatment should be discussed with families. Treatment may not always eliminate pain and it may return if it is a chronic headache disorder. The goal of treatment is to reduce the pain burden to improve their functioning.
- Prevention is the most effective way to manage migraine. Patients should be referred back to their primary doctor and a neurologist to address this.

Families and children should be properly educated on:

- Sleep – duration of sleep depends on age: children 6 to 12 years of age need 9 to 12 hours per night. Teenagers need 8 to 10 hours per night. Screen time should be avoided 1 hour before bed
- Hydration – for a typical day, 1 ounce per kilogram of water is recommended. Most teens should consume approximately 64 oz or 2 L of water per day.
- Exercise – regular exercise has been shown to reduce migraine frequency, intensity, and duration and improves quality of life.⁶
- Nutrition – advising regular and balanced meals throughout the day.
- Keeping track of headaches through a headache diary or app such as migraine buddy.
- Avoid overusing treatments such as ibuprofen (Advil, Motrin) and acetaminophen (Tylenol). They should be limited to using no more than 14 days per month.⁷

- Reasons to return for evaluation: headache regularly awakens from sleep, vomiting multiple times during a headache, dehydration, confusion, or significant worsening of headache features or pattern

What are other helpful resources that I can use for management and patient education?

Please refer to the [DCMC Inpatient and Emergency Department Guidelines](#) for more details on local practice recommendations.

The American Migraine Foundation is also an excellent source of information for patients and families.

*** Post the CHAT and DCMC family education handouts for migraine in your unit

Addendum 2: Tips & Tricks for Diagnosing and Management

Migraine

Over 1 Billion people worldwide suffer from migraine.

Headache disorders, such as migraine, are a common reason for presentation to the emergency department and inpatient setting. Please share this sheet for discussion at your site about common questions and controversies around the treatment and diagnosis of migraine. Please reach out to DCMC educational champions to ensure your site is ready for the new ED and inpatient treatment pathways. We are here to help with education and provide a more seamless mechanism to ensure safe and expedited transfers to DCMC when needed.

TOP TIPS

- Obtain a detailed history.
- Be aware of the indications for headache neuroimaging, e.g. seizure, focal neuro deficits.
- If imaging is needed, brain MRI is almost always preferred over a head CT.
- Do not treat a primary headache with opioids and barbiturates.
- Migraine is a brain disorder caused by elevations in CGRP & is not a vascular disorder.



**Brain MRI is
 recommended
 over CT**

Diagnosis

- Headache attacks lasting 2 -72 hours (untreated or unsuccessfully treated)
- Headache has at least 2 to 4 characteristics:
 - Unilateral location (typically bilateral)
 - Pulsating quality
 - Moderate or severe pain intensity
 - Aggravation/avoidance of routine activity (e.g. walking)
- During headache at least one of the following:
 - Nausea and/or vomiting
 - Light and sound sensitivity (can be inferred from their behavior)
- Not better accounted for by another disorder.

Discharge planning

- Consider a 3-day naproxen bridge
- Arrange follow up with neurology
- Provide headache education:
 - Sleep, adequate nutrition and hydration, exercise
 - How to avoid medication overuse
 - Recommend tracking headaches
- Discuss reasons to return to the ED
 - Headache regularly awakens from sleep, vomiting multiple times during a headache, dehydration, confusion, or significant worsening of headache features or pattern



**NO indication
 for opioids or
 barbiturates**

Addendum 3: Medication and Dosing

Enteral Medications

- Acetaminophen 15 mg/kg PO (max 1 g)
- Ibuprofen 10 mg/kg PO (max 800 mg)
- Naproxen 10 mg/kg PO (max 660 mg)
- Ondansetron 0.15 mg/kg PO (max 8 mg)
- Diphenhydramine 0.5 mg/kg PO (max 50 mg)

IV Medications

- Acetaminophen 15 mg/kg IV (max 1 g)
- ketorolac 0.5 mg/kg PO (max 30 mg)
- prochlorperazine 0.15 mg/kg IV (max 10 mg)
- Ondansetron 0.15 mg/kg IV (max 8 mg)
- Diphenhydramine 0.5 mg/kg IV (max 50 mg)
- Normal saline bolus 20 ml/kg IV (max 1 L)
- Valproic acid 20 mg/kg IV (max 1,000 mg)

Triptans

- Rizatriptan tab or MLT (6-17 yo)
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 - 40 kg = 25 mg PO
 - 40 kg = 50-100 mg PO
- Sumatriptan nasal spray
 - 20-39 kg = 10 mg
 - 40 kg = 20 mg

***Contraindicated in CV dz, stroke, or pregnancy

Anticipatory Guidance for Families

- Explain expected course
- Encourage good sleep hygiene, a well-balanced diet, sufficient hydration and regular exercise^[1]
- Educate on medication overuse
 - The excessive use of symptomatic headache medicines, most commonly simple analgesics, can cause MOH in susceptible patients and has been well described in patients with primary headache disorders. Medication overuse can be a contributing factor in headache chronicity in 20–30% of children and adolescents with chronic daily headache ^[2]
- Recommend follow up
- Reasons to return: significant worsening, recurrent vomiting, confusion, new neurologic symptoms

Addendum 3: Caring for your Child's Migraine

How common are headaches? What is the impact?

- Very common! 20% of kids from preschool through teenage report frequent or severe headaches in any given year.
- Headaches are more common in children who have family members with headaches.
- Headaches can impact quality of life including school attendance, school performance, and ability to play or socialize.

What causes headaches?

- There are many different causes of headaches. Luckily, most headaches in children are not caused by anything serious. Most commonly, chronic headaches are migraines
- 90% of sporadic (not migraine) headaches are caused by a viral upper respiratory tract infection or sinus infection and will go away with time
- Head trauma or concussion
- Medication side-effects (including too frequent use of pain-relieving medication!)
- Very rare possibilities include tumors or nervous system infections

What should I do at home?

Headache journal: look for patterns and avoid triggers. Many triggers have been identified that can induce, promote, or sustain a migraine. The specific factors that trigger attacks can differ from one person to another and may be inconsistent between attacks.

Common Headache Triggers

Diet	Stress
Specific foods: deli meat, hot dogs (nitrates), aged cheese, foods with MSG	Stressful events, times of intense activity, loss or change (death, divorce), crisis
Excessive Caffeine	Changes in environment or habits
Dehydration	Scents, schedule changes
Hormones	Sleeping patterns, motion sickness
Hormone changes (menses, birth control pills)	Skipping meals, weather change, travel (crossing time zones)

Recommendations:

1. Take pain medication as soon as a headache develops, as long as appropriately limited. Pain medications are most likely to work when given early in the course of a headache. It is important to limit certain short acting medications like ibuprofen and acetaminophen (Tylenol) to only 2-3 days per week as overuse can actually cause more headaches!
2. Lay down in a quiet, cool, dark environment until symptoms start to improve.
3. Migraines usually won't get better with medications alone. Treatment depends on reducing triggers, reducing stress or improving children's coping of stress or pain.
4. It is important for children not to miss school because of chronic headaches. If needed, they can go to the nurse's office for 15 minutes once daily. They may use sunglasses outside if sensitive to light.
5. Encourage daily exercise, drinking plenty of fluids (at least 64 ounces for the average teen and more with exercise), good nutrition, and a consistent bedtime schedule with a good night's rest.
6. Meals: Do not skip meals, including breakfast. Carry snacks
7. Sleep: consistent bed and wake times, even on weekends, aiming for the same amount of sleep each night (goal 9-10 hours in most kids and adolescents), avoid night awakenings, restrict food and fluids a few hours prior to bedtime, read or relax prior to sleep with a set bedtime routine, avoid television in the bedroom, avoid screens 1 hour prior to bed.
8. Relaxation therapy
9. See a psychologist for help with progressive muscle relaxation, breathing exercises, visualization techniques, and biofeedback.
10. If depression exists alongside headaches, treatment of depression may help reduce the pain burden.

Key Contacts	
DCMC ED Physician Back Line (talk to an ED doc)	512-324-0150
DCMC Transfer/ Direct Admit (gets you transport team also)	512-324-3262 (DCMC)
DCMC Hospitalists	
DCMC Critical Care	512-324-9999 x-86312

EDUCATIONAL RESOURCES:

Physician: William Qubty, M.D.
william.qubty@ascension-external.org

ED Contact: Sujit Iyer, M.D.
ssiyer@ascension.org

Dell Children's Evidence Based Outcomes Center (Guidelines/ Pathways):
<https://www.dellchildrens.net/for-healthcare-professionals/evidence-based-care-guidelines>

Recomendaciones para paciente dado de alta

Apéndice 3: Cómo cuidar la migraña de su hijo

¿Qué tan comunes son los dolores de cabeza? ¿Cuál es su impacto?

- ¡Son muy comunes! El 20% de los niños de etapa preescolar hasta edad adolescente dicen tener dolores de cabeza frecuentes o severos en el trastorno de un año.
- Los dolores de cabeza son más comunes en niños que tienen familiares con dolores de cabeza.
- Los dolores de cabeza pueden afectar la calidad de vida de el niño, incluyendo la asistencia a la escuela, el rendimiento escolar y el gusto por el juego o socializarse.

¿Qué causa los dolores de cabeza?

- Existen muchas causas diferentes para el dolor de cabeza. Afortunadamente, la mayoría de los dolores de cabeza en los niños no son causados por algo grave. Con mayor frecuencia, los dolores de cabeza crónicos son migrañas.
- El 90% de los dolores de cabeza esporádicos (no de migraña) son causados por una infección en la vía respiratoria superior dado a un virus o a una sinusitis. Esta desaparecerá con el tiempo.
- Traumatismo craneal o conmoción cerebral.
- Efectos secundarios de la medicación (¡incluyendo el uso demasiado frecuente de analgésicos!)
- Las razones posibles pero muy raras incluyen tumores o infecciones del sistema nervioso.

¿Qué debo hacer en casa?

Busque los patrones en los factores y evite aquello que pueda provocar y desencadenar un episodio. Se han identificado muchos factores desencadenantes que pueden inducir, promover o mantener una migraña. Los factores específicos que desencadenan los ataques pueden diferir de una persona a otra y pueden ser inconsistentes entre los ataques.

Causas/Desencadenantes comunes de dolor de cabeza

Dieta	Estrés
Alimentos específicos: embutidos, salchichas (nitratos), queso añejo, alimentos con MSG	Eventos estresantes, actividad intensa, pérdida o cambio (muerte, divorcio), crisis
Cafeína excesiva	Cambios en el ambiente o hábitos
Deshidratación	Aromas, cambios de horario
Hormonas	Patrones de sueño, mareo
Cambios hormonales (menstruación, píldoras anticonceptivas)	Saltarse comidas, cambio climático, viajar (cruzar zonas con diferente horario)

Recomendaciones:

1. Tomar medicamentos para el dolor tan pronto como se desarrolle un dolor de cabeza, siempre y cuando sea adecuadamente limitado. Es más probable que los medicamentos para el dolor funcionen cuando se administran temprano en el curso de un dolor de cabeza. ¡Es importante limitar ciertos medicamentos de acción corta como el ibuprofeno y el acetaminofeno (Tylenol) a solo 2-3 días por semana, ya que el uso excesivo puede causar más dolores de cabeza!
2. Acostarse en un ambiente tranquilo, fresco y oscuro hasta que los síntomas comiencen a mejorar.
3. Las migrañas generalmente no mejoran solo con medicamentos. El tratamiento depende de identificar y reducir los factores que los provocan, reducir el estrés o mejorar el manejo del estrés o el manejo del dolor de los niños.
4. Es importante que los niños no falten a la escuela debido a dolores de cabeza crónicos. Si es necesario, pueden ir a la oficina de la enfermera durante 15 minutos una vez al día. Pueden usar gafas de sol afuera si son sensibles a la luz.
5. Fomente el ejercicio diario, beber muchos líquidos (al menos 64 onzas para el adolescente promedio y más si se hace ejercicio), una buena nutrición y un horario constante para acostarse con una buena noche de descanso.
6. Comidas: no se salte las comidas, incluido el desayuno. Llevar bocadillos
7. Sueño: horarios constantes de dormir y despertar, incluso los fines de semana, con el objetivo de dormir la misma cantidad cada noche (meta 9-10 horas en la mayoría de los niños y adolescentes), evitar los despertares nocturnos, restringir la comida y los líquidos unas horas antes de acostarse, leer o relájese antes de dormir con una rutina establecida para dormir, evite la televisión en la habitación, evite las pantallas 1 hora antes de acostarse.
8. Terapia de relajación
9. Consulte a un psicólogo para obtener ayuda con la relajación muscular progresiva, ejercicios de respiración, técnicas de visualización y biorretroalimentación.
10. Si existe depresión junto con dolores de cabeza, el tratamiento de la depresión puede ayudar a reducir la carga del dolor.

Contactos	
Hable con un médico de el departamento de emergencias	512-324-0150
Transferencias/ Admision directa (también lo comunica con el equipo de transporte)	512-324-3262 (DCMC)
Hospitalistas del hospital DCMC	
Cuidado Critico DCMC	512-324-9999 x-86312

EDUCATIONAL RESOURCES:

Médico: William Qubty, M.D.

william.qubty@ascension-external.org

Contacto de Emergencias: Sujit Iyer, M.D.

ssiyer@ascension.org

Dell Children's Evidence Based Outcomes Center (Guidelines/ Pathways):

<https://www.dellchildrens.net/for-healthcare-professionals/evidence-based-care-guidelines>

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EBOC Project Owner: Dr. William Qubty

Approved by the Pediatric Evidence-Based Outcomes Center Team

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Migraine Headache EBOC Team:

Sujit Iyer, MD

William Qubty, MD

Jorge Ganem, MD

Carmen Garudo, PM

EBOC Committee:

Lynn Thoreson, DO

Sarmistha Hauger, MD

Terry Stanley, DNP

Sujit Iyer, MD

Tory Meyer, MD

Meena Iyer, MD

Deb Brown, RN

Nilda Garcia, MD