

CARE MANAGEMENT AND REFERRAL GUIDELINES

2018 EDITION

These Care Management and Referral Guidelines were approved by the HHP Quality and Clinical Integration committee.

They are available on the Hawai'i Pacific Health intranet and Hawai'i Pacific Health and Hawai'i Health Partners websites.

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|---|----|
| Disclaimer | 3 |
| Authors/Contributors | 3 |
| Foreword | 4 |
| Purpose | 5 |
| Ownership of Guidelines and Archiving | 5 |
| Methodology | 5 |
| Development of the Care Management and Referral Guidelines | 5 |
| Selection of Topics | 5 |
| CM/RGs Development Workgroup | 6 |
| Dissemination of the Care Management and Referral Guidelines | 7 |
| Updating of the Care Management and Referral Guidelines | 7 |
| Updating Process of Care Management and Referral Guidelines Flowchart | 8 |
| Monitoring and Evaluation | 9 |
| ADULT / PEDIATRIC | |
| Allergy/Immunotherapy | 12 |
| Stepwise approach for managing asthma in youths ≥ 12 years of age and adults | 14 |
| Bone and Joint | 16 |
| Otolaryngology | 19 |
| Pulmonary Medicine | 21 |
| ADULT | |
| Gastroenterology | 26 |
| Neurology | 29 |
| Ophthalmology | 30 |
| Urology | 31 |
| Adult Behavioral Health | |
| Treatment for Generalized Anxiety Disorder Algorithm | 33 |
| Treatment for Generalized Anxiety Disorder | 34 |
| 1st Line of Medications | 34 |
| 2nd Line of Medications | 34 |
| Anxiety Medication Related Problems & Considerations | 35 |
| Major Depressive Disorder Algorithm | 36 |
| Interpretation of PHQ-9 Scores for Major Depressive Disorder | 37 |
| Treatment for Major Depressive Disorder | 37 |
| 1st Line of Medications | 37 |
| 2nd Line of Medications | 37 |
| Depression Medication Related Problems & Considerations | 38 |
| Mood Disorder and Bipolar Algorithm | 39 |

| | |
|---|----|
| Pharmacologic Treatment for Manic Phase | 40 |
| Pharmacologic Treatment for Depression | 40 |
| Pharmacologic Treatment for Maintenance | 41 |
| PEDIATRIC | |
| Initial Evaluation of a Patient with Chest Pain | 44 |
| Constipation Work-up and Management Algorithm | 46 |
| Initial Evaluation and Management of Headaches | 47 |
| Headache Algorithm | 50 |
| Initial Evaluation of a Pediatric Patient with a Heme-Positive Urine Dipstick | 51 |
| Initial Evaluation for Heme-Positive Urine Dipstick Algorithm | 52 |
| Neonatal Direct Hyper Bilirubin Workup Algorithm | 53 |
| Pediatric Behavioral Health | |
| Evaluation and Initial Management of ADHD | 54 |
| Attention Deficit Hyperactivity Disorder (ADHD) Algorithm | 56 |
| ADHD Stimulant Medications | 57 |
| ADHD Non-Stimulant Medications | 58 |
| ADHD Resources for Families and Schools | 58 |
| Anxiety Algorithm | 59 |
| Evaluation and Management of Anxiety Disorder | 60 |
| Anxiety Medications | 60 |
| Resources | 61 |
| Depression Algorithm | 62 |
| Evaluation and Management of Depression | 63 |
| Depression Medications | 63 |
| Resources | 64 |
| WOMEN | |
| Initial Management of Abnormal Uterine Bleeding Algorithm | 66 |
| Nausea and Vomiting of Early Pregnancy Algorithm | 67 |
| UTI in Early Pregnancy | 68 |
| Vaginal Bleeding in Early Pregnancy Algorithm | 69 |
| Vaginitis | 70 |
| APPENDIX | |
| Key Points of Contact | 74 |
| List of Clinical Algorithms | 75 |
| IOM of the National Academies – Clinical Practice Guidelines We Can Trust | 76 |

The Care Management and Referral Guidelines (CM/RGs) are provided as general guidance to practicing clinicians, may change with time, and are not intended to supersede the medical judgment of the clinician.

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The transformation of our health care system is well underway. Hawai'i Health Partners (HHP) is committed to improving the quality and value of patient care delivered by our member physicians. One clear way to address quality of care and total cost of care is by reducing unnecessary variation and other forms of waste or inefficiency. Working to achieve these objectives requires strong physician engagement and collaboration between primary care providers (PCPs) and their colleagues in other specialties.

One of the ways to foster physician engagement is to encourage physician-led initiatives by promoting improvements supported by evidence-based care. The CM/RGs initiative is led by HHP physicians and championed by clinical leaders for collaboration across disciplines. The CM/RGs advocate for efficient use of health care resources, as well as define effective care coordination and teamwork across specialties. The use of CM/RGs is an important component of an ongoing effort to improve delivery and quality of care.

On behalf of HHP, we thank our specialty and primary care group contributors, reviewers and editors who have worked to make this first edition of the CM/RGs a reality.

Thank you for your continued support as we lead health care transformation in Hawai'i.

Andy Lee, MD
HHP Medical Director

PURPOSE

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As part of the HHP Care Model, the development and adoption of evidence-based clinical care guidelines helps move our organization closer to achieving a collaborative approach to deliver high-quality, high-value care for our patients.

The guidelines are established for our providers to appropriately consider when a specialist should be involved in the care of the patient. The CM/RGs are based on published evidence and expert opinion available at the time the guideline is adopted.

The target audience for HHP CM/RGs is all Internists, Family Practice, General Practice, General Pediatrics and other referring providers. The target patient population is all HHP provider patients who present to a referring provider with a clinical problem being addressed in the CM/RGs."

OWNERSHIP OF GUIDELINES AND ARCHIVING

In accordance with the HHP Care Model, HHP is responsible for oversight of the CM/RGs. HHP accomplishes this by monitoring the processes for developing, reviewing, and archiving all CM/RGs.

- 1) HHP is responsible for ensuring that a system is in place for the review and publication of all CMs/RGs.
- 2) HHP is responsible for the archiving of CMs/RGs documents within the organization.
- 3) The HHP Project Manager, under the direction of the HHP Medical Director, has overall responsibility for the content of the clinical guidelines database on the HHP website and HPH Intranet. This includes the ongoing development, management, and administration of the database.
- 4) The HHP Medical Director is responsible for the oversight of these operations.
- 5) HHP QCI committee approves guidelines and protocols.

METHODOLOGY

This section describes the methodology used in the creation of CM/RGs, the selection of topics, formation of specialty workgroups, and approval of the recommendations.

Development of the Care Management and Referral Guidelines

The HHP CM/RGs were based on adopting best practices and pertinent existing guidelines, and are developed by a multidisciplinary workgroup of HHP specialists and primary care providers (PCPs).

Selection of Topics

Consistent with HHP's goal to improve the quality of care and reduce unnecessary variation in care, HHP providers determined which referral guideline topics to develop and adopt through the use of population analysis and based on population health program goals. The CM/RGs were derived from national reputable organization sources and evidence-based. Additionally, guidelines were developed and adopted to address the needs of specific populations.

CM/RGs Development Workgroup

HHP collaborated with a select group comprised of a multidisciplinary panel of HHP providers who were convened through face-to-face meetings and conference calls to discuss, review, and assess the development of the guidelines.

Adult Specialties (Otolaryngology, Allergy/Immunotherapy, Pulmonary, Bone & Joint, Gastroenterology, Neurology, Ophthalmology, Pulmonology, and Urology):

The subspecialist designee and specialty workgroup developed and performed a literature search of existing CM/RGs.

- 1) The content authors reviewed the literature for best practices for evaluation and management of the CM/RGs under consideration.
- 2) The workgroup summarized relevant background information, typical course of the condition, and variation in patient care in an effort to define an optimal and appropriate referral.
- 3) The final version of the CM/RGs were reviewed by the workgroup members to obtain consensus on the content.

Women Specialties:

OB/GYN- abnormal uterine bleeding, nausea and vomiting in early pregnancy, UTI in early pregnancy, vaginal bleeding in early pregnancy, vaginitis.

Pediatric Specialties:

Constipation, headache, heme-positive urine dipstick, chest pain, neonatal bilirubin workup.

Behavioral Health Specialties:

Pediatric– ADHD, anxiety, depression. Adult- Anxiety, Depression, Bipolar, and Mood Disorder.

As above, the specialist or subspecialists created draft guidelines but made a more concerted effort to gather PCP input early in the process. The PCP was integrated throughout the process participating in all the workgroup meetings to:

- Develop these guidelines that were then completed by the HHP Specialty workgroups with PCP participation.
- Prioritize conditions, assess utilization, and determine preferences for communication and new conditions; additionally, a survey was sent to community PCPs.
- Facilitate the specialty workgroup review and discussion of the feedback received. The HHP project manager then formally incorporated further recommendations into the guidelines.
- Obtain consensus on the content prior to approval of the final version of the CM/RGs.

Final review and approval

The HHP CM/RGs were reviewed and approved as follows: Adult CM/RGS were reviewed and approved by the HHP Medical Group Leadership Council, Women CM/RGs by the HHP Women's workgroup, Pediatric CM/RGs by the HHP Pediatric workgroup, and Behavioral Health CM/RGs by the HHP Behavioral Health Integration workgroup. The full documented CM/RGs were reviewed by the HHP QCI committee for final approval and adoption.

Dissemination of the Care Management and Referral Guidelines

CM/RGs will be disseminated using passive and active means that are described in this section.

Passive dissemination means include online access, mailings, and newsletter provider alerts. In addition, HHP will provide information and training using learning modules and at new provider orientation.

Online: HHP website: hawaiihealthpartners.org/for-providers/education, and both the HPH intranet and internet.

Mail: Communicate CM/RGs electronically via email and printed packets by mail.

Newsletter: Distribute Provider Alert e-mail and e-newsletters to communicate about data highlights, and other updates regarding the usage of referral guidelines.

New Provider Orientation: Include CM/RG information in new provider orientation packets.

Learning modules: Record and make available HLC learning modules to be viewed by provider members.

Active dissemination means include face-to-face interaction and integration into the electronic health record.

Face-to Face: Office visits to hand out CM/RG packets, mobilize champions in primary care setting meetings, workshops and meetings (e.g. Continuing Medical Education, Grand Rounds, etc.), and HHP Annual Membership Meeting.

Electronic Health Record (EHR): Epic team completed building *smartphrases* based on the CM/RGs with links directed to a pdf document specific to each guideline. The links will be memorialized to the dated pdf document used.

Updating of the Care Management and Referral Guidelines

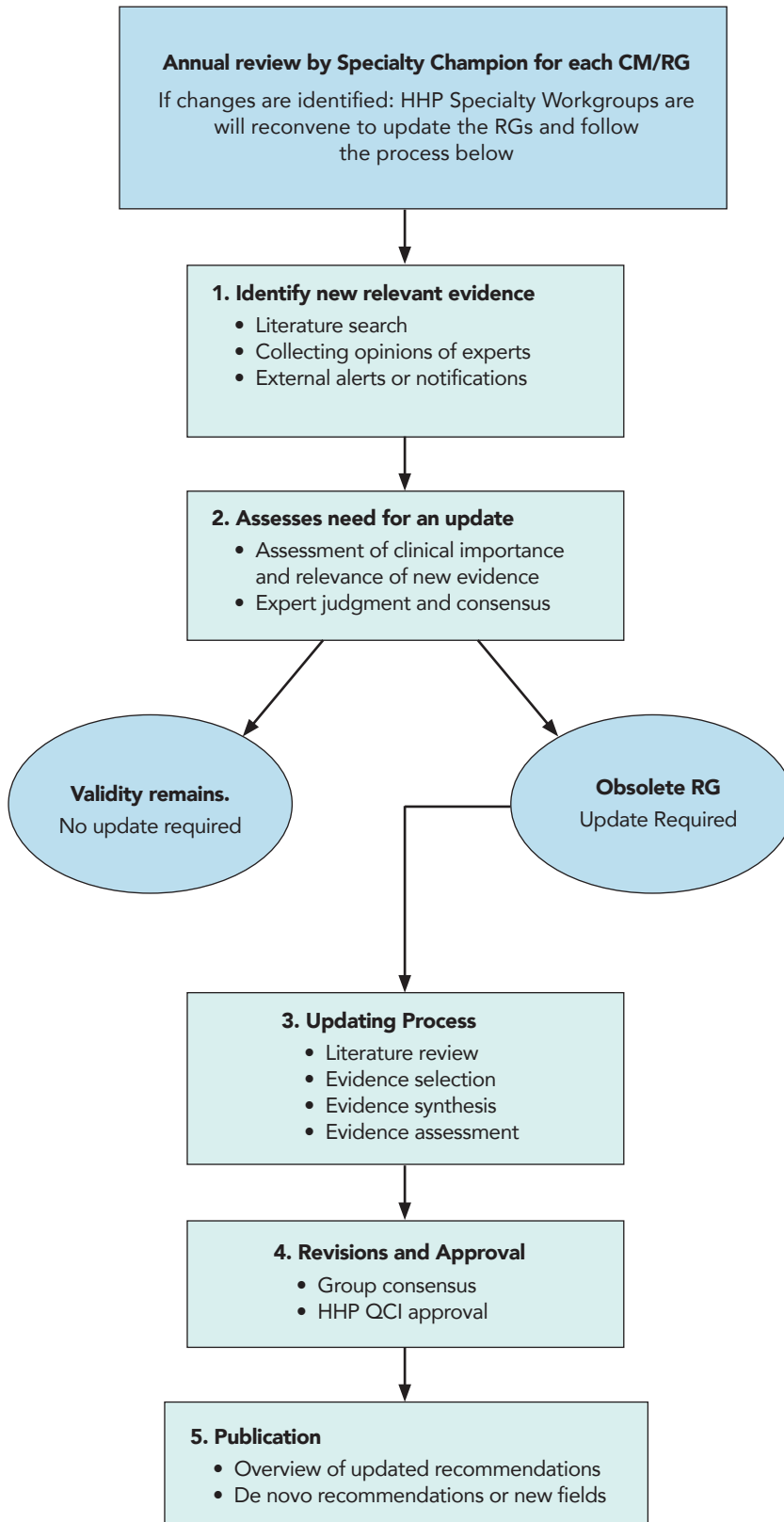
The CM/RGs must be reconsidered for updating when new evidence suggests the need for modification of clinically important recommendations¹. HHP CM/RGs will be updated after weighing the strength of new evidence. In some instances, revision to a guideline is done for the purpose of clarifying the previous recommendation. Creating new or updated referral guidelines is under the oversight of the HHP Quality and Clinical Integration (QCI) committee and will adhere to the Institute of Medicine (IOM) of the National Academies Standards for Developing Trustworthy Clinical Practice Guidelines (see appendix). (see appendix).

- 1) All approved guidelines are reviewed annually by a designated specialty champion for each CM/RG to ensure they are consistent with current research and national standards.
- 2) If changes are indicated, the HHP Specialty workgroup will reconvene to update the CM/RGs.
- 3) When revised guidelines are presented to the HHP QCI committee for review and approval, a summary of the changes to the guidelines will be distributed to the committee members.
- 4) Provider members will be notified of updates.
- 5) Monitoring oversight of this process is by the HHP Project Manager and Medical Director.

Reference:

1. Vernooij RVM, Sanabria AJ et al., (2014). Guidance for updating clinical practice guidelines: a systematic review of methodological handbooks. *Implementation Science*.

Updating Process of Care Management Referral Guidelines Flowchart



Monitoring and Evaluation

Considerations for measuring success

- 1) EPIC *smartphrase* use
- 2) Website traffic to access guidelines
- 3) Provider member survey results

Potential impact on patient population health outcomes

- 1) Patient safety
- 2) Quality of referrals
- 3) Improved timely health care access
- 4) Appropriate utilization

Assessment of Limitations and Future Needs

- 1) Education and dissemination of the CM/RGs
- 2) Conflicting recommendations
- 3) Insurance coverage for specific interventions
- 4) Continued engagement from HHP providers

ADULT / PEDIATRIC

ADULT

PEDIATRIC

WOMEN

APPENDIX

ALLERGY/IMMUNOTHERAPY

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General Recommendations:

The Allergy Department treats patients of all ages. If patients are being referred for allergy testing they should be off antihistamines if possible. This is not necessary if the patient is suffering from eczema, urticaria, angioedema, or severe nasal/ocular allergies. Generally Benadryl and other 1st generation antihistamines need to be discontinued at least 72 hours before; Allegra, Zyrtec, Xyzal 7 days before; Claritin, Clarinex about 10 days prior. Other medications such as tricyclic antidepressants and H2 acid blockers will also block skin testing.

Not Recommended:

Blood testing or Radioallergosorbent test (RAST) is not recommended. Allergy test panels are strongly not recommended. Panels test for some irrelevant allergens. Testing for foods should only be done for highly implicated foods. Food testing, both blood and skin testing, have a high false positive rate. There are patients that have a negative RAST but have a positive skin test. All food allergy should be referred and tests should be ordered by the allergist. If uncertain, please call the specialist.

Refer to a Specialist for:

Allergic Rhinitis:

- 1) Failure of a trial of a nasal steroid and/or antihistamine for at least 2 weeks.
- 2) Impact on quality of life: work, school, sleep, social interactions.
- 3) Patients with frequent episodes of sinusitis, Otitis media, sore throats.

Ocular Allergies:

- 1) Failure of an antihistamine eye drop or oral antihistamine.
- 2) Presence of nasal allergy symptoms.
- 3) Do not recommend simultaneous consultation with Allergy AND Ophthalmology.

Eczema:

- 1) Failure of high dose antihistamines with basic skin care.
- 2) Failure of low dose topical steroids or prolonged use of high dose steroids or Elidel, Protopic and Eucrisa creams.
- 3) Impact on quality of life.
- 4) May be a candidate for Dupilumab (IL-4, IL-13 blocker).

Anaphylaxis:

All cases of Anaphylaxis should be referred. EpiPen should be prescribed.

Angioedema:

- 1) Failure of high dose antihistamines and oral/injectable steroids.
- 2) Recurrent episodes of angioedema requiring frequent steroids or have required EpiPen administration.

Urticaria:

- 1) Failure of high dose antihistamines and H2 blocker combination.
- 2) Frequent use of oral or injectable steroids.
- 3) Effect on quality of life.
- 4) Urticaria that lasts 6 weeks or longer is chronic and the Patient may be a candidate for Xolair therapy.

ALLERGY/IMMUNOTHERAPY continued

Food Allergy:

- 1) As noted above refer to an allergist, testing has a high false positive rate. RAST, especially to screen for potential food allergies, is not recommended.
- 2) Oral challenges done in the allergist's office setting are the gold standard. Not recommended to be done by a primary care provider.

Drug Allergy:

- 1) RAST is only available if allergy for Amoxicillin, Ampicillin, Penicillin G, or Penicillin V is suspected. Negative tests may be followed by an oral test dose.
- 2) Other drugs such as steroids and local anesthetics are tested by skin testing. Aspirin and NSAIDs are tested by subsequent oral challenge. Testing in the allergy office can take up to 4 hours, and patients must be off antihistamines.

Asthma:

- 1) Consideration for evaluation must be given for any patient seen in the ER or hospitalized.
- 2) Patients with concurrent chronic rhinitis or eczema may be referred.
- 3) Patients with severe persistent asthma requiring Xolair or Nucala therapy or Fasenra.
- 4) Simultaneous Allergy and Pulmonary recommendations are not recommended.

Hymenoptera Allergy:

- 1) Large local reactions generally do not need to be referred.
- 2) Any anaphylactic reaction should be referred. Prescribe EpiPen.
- 3) We are unable to test for spider bites, centipede bites and stings from jelly fish.

Immunodeficiency:

- 1) The Allergy Department can do basic immune system screening for Patients suffering from frequent infections. Generally, it is recommended that these Patients be referred to Infectious Disease for further evaluation.
- 2) Patients with immunoglobulin deficiency, like common variable immunodeficiency (CVID), are referred to Hematology. They also arrange for intravenous immunoglobulin (IVIG).

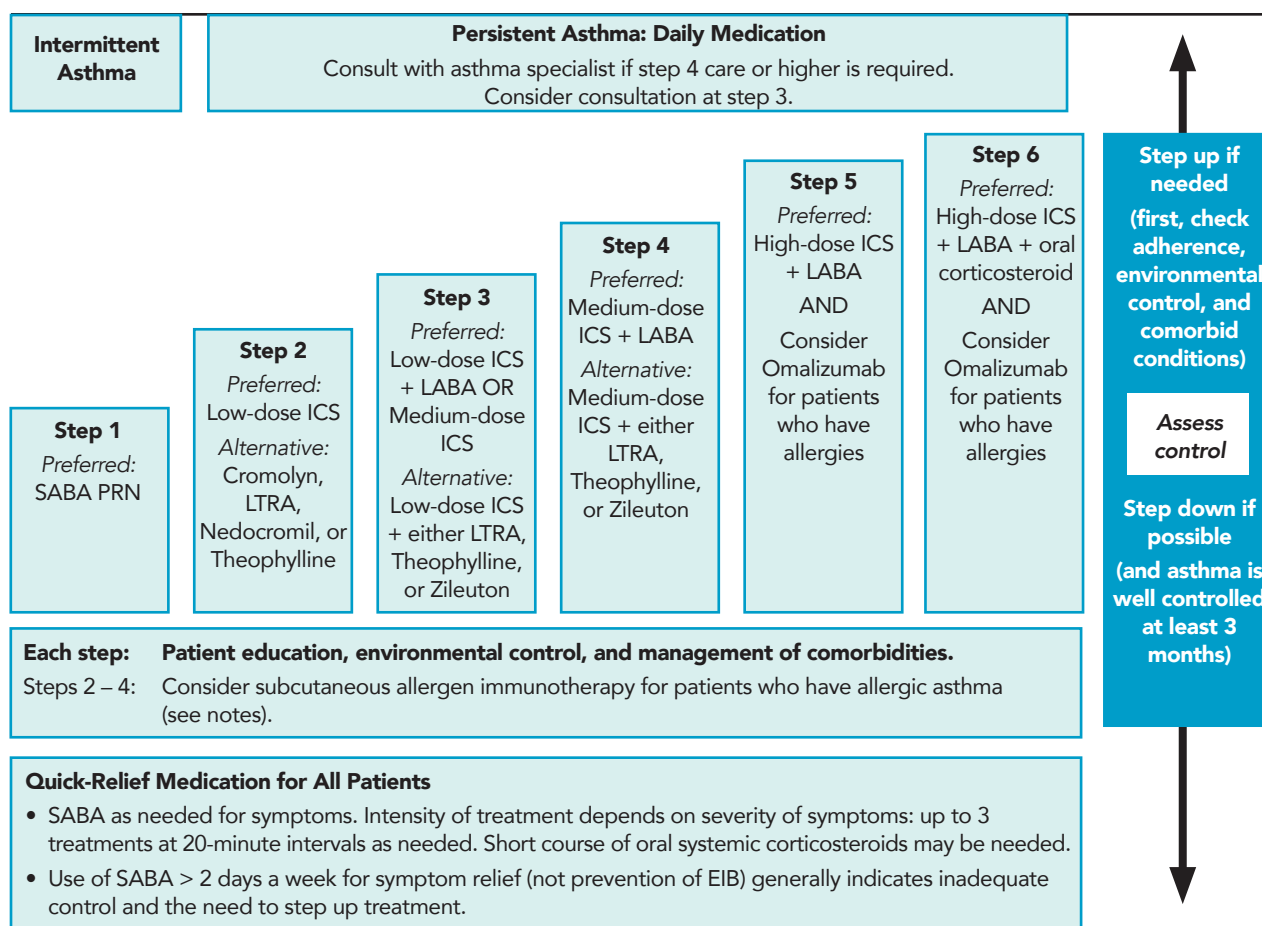
STEPWISE APPROACH FOR MANAGING ASTHMA IN YOUTHS ≥ 12 YEARS OF AGE AND ADULTS

Asthma:

- 1) Considerations
 - a. The most common reason patient's asthma remain poorly controlled is due to either nonadherence with therapy or incorrect use of the medication delivery systems.
 - i. Most patients who have a metered-dose inhalers have not been instructed on proper use and are not using them correctly.
 - b. Asthma treatment guidelines (NAEPP EPR-3) (see next page) spell out the stepwise approach to pharmacotherapy for asthma.
- 2) When to Refer:
 - a. Persistent symptoms in moderate to severe asthma despite a long-acting bronchodilator/inhaled corticosteroid combination product include long-acting anticholinergics. Severe bronchospasm suggests a need for a course of systemic corticosteroids.
 - b. Patients with moderate to severe asthma (step 4-6 below) should be co-managed with the assistance of an asthma specialist (Allergy or Pulmonology).
 - c. Novel treatments for severe asthma, such as parenteral therapies aimed at blocking the inflammatory cascade in asthma or Bronchial Thermoplasty (a procedure to permanently reduce airway smooth muscle) might be indicated in uncontrolled asthma.
- 3) Tests Prior to Referral
 - a. Spirometry
 - i. There should be evidence of airway obstruction or bronchial hyper responsiveness. Demonstrated either via spirometry showing obstruction and a positive bronchodilator response or bronchoprovocation testing such as a methacholine challenge.
 - ii. Peak flow meter measurements can be used but are very effort dependent often providing variable results.
 - iii. It may be reasonable to give a clinical diagnosis of asthma and a trial of therapy in mild cases. Persistent symptoms should mandate spirometry testing.

MANAGING ASTHMA continued

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National Asthma Education and Prevention Program, Third Expert Panel on the Diagnosis and Management of Asthma. Bethesda (MD): National Heart, Lung, and Blood Institute (US); 2007 Aug

BONE AND JOINT

Purpose:

These guidelines are designed to help the primary care physician determine when to refer patients with some of the more commonly seen musculoskeletal complaints for outpatient bone and joint consultation.

Atraumatic Lower Back Pain without Sciatica and No Red Flags (Systemic or Neurological):

- 1) Initiate treatment with short term analgesia and if no contraindications short term NSAIDs.
- 2) Start PT twice per week for 1 month to help patient understand inciting factors of the back pain and to work on preventive techniques.
 - a. If no better after 6 weeks of this treatment, then consider lumbar spine x-ray including AP, lateral and oblique views (lumbar spine series) and consider referring to physiatry medicine.

Traumatic or Injury Induced Lower Back Pain with Focal Area of Tenderness, but No Sciatica and No Red Flags:

- 1) Lumbar spine x-rays as above and if no fracture then treatment as above.
 - a. If fracture and no neurological findings then prescription to physiatry medicine for back brace (TLSO) for fractures L2 and higher and lumbar (LSO) corset for L3 and lower) and initiate treatment as above, refer to physiatry medicine. Review bone density status with patient.
 - b. If neurological findings then order MRI and refer to orthopedic spine specialist.

Atraumatic Mild/Moderate Lower Back Pain with Sciatica without Neurological Defects:

- 1) Initial treatment as above as long as patient's condition does not worsen:
 - a. If no change in two to four weeks then lumbar spine x-rays as above and referral to physiatry medicine.

Atraumatic Severe Lower Back Pain with Sciatica with Neurological Defects:

- 1) Initiate treatment as above, lumbar spine x-ray, MRI of the lumbar spine and referral to neurosurgery, orthopedic spine surgery (see above) or if only minimal and no progressive neurological deficits to physiatry medicine.

Severe Lower Back Pain with Red Flags:

- 1) Pharma therapy, lumbar spine x-ray, MRI, possible labs (ESR, CRP, CBC) and referral to neurosurgery or orthopedic spine surgery if neurological deficits are present or appropriate specialist depending on working diagnosis (infection to ID, cancer to oncology).

Chronic Lower Back Pain:

- 1) Duration greater than six months, patient on long term narcotic medication, evaluation completed at Straub or elsewhere with infection, malignancy and neurological etiology ruled out:
 - a. Referral to pain management network of providers.

Atraumatic Neck Pain with No Red Flags:

- 1) Initiate treatment including short term analgesics, NSAIDs, PT twice per week for 1 month.
 - a. If not better after six weeks obtain standard x-rays cervical spine pain series (AP, lateral, two oblique and open mouth views) then referral to physiatry medicine.

Atraumatic Neck Pain with Radiculopathy and no Red Flags:

- 1) Cervical spine x-rays as above and if neurological deficit, obtain MRI of the cervical spine and refer to neurosurgery.
 - a. If no neurological deficits, then initiate treatment as above with the consideration of a tapering dose of oral corticosteroids and refer to physiatry medicine.

BONE AND JOINT continued



Mild to Moderate Atraumatic Shoulder Pain:

- 1) Initiate treatment with RICE, NSAIDs, Rehabilitation (PT, OT), if no better after six weeks then obtain standard x-rays shoulder pain series (four views) and refer to physiatry medicine/orthopedic surgery.

Severe Shoulder Pain:

- 1) Initiate pharma therapy, four view shoulder x-rays.
 - a. If fractures/dislocations then refer to orthopedic surgery.
 - b. If degenerative changes or normal x-rays then initiate treatment as above, and if not better in two to four weeks or if PCP is concerned about the clinical presentation then referral to physiatry medicine/orthopedic surgery.

Atraumatic Mild Knee Pain:

- 1) Initiate treatment with RICE, NSAIDs, decrease weight bearing activities, possibly PT twice per week for 1 month.
 - a. If not better in six weeks then obtain x-rays (standing AP, standing Rosenberg at 45 degrees of flexion, Sunrise view of patellae, lateral views) and refer to physiatry medicine/orthopedic surgery.

Atraumatic Moderate to Severe Knee Pain:

- 1) In adults older than 30 years obtain standard weight-bearing x-ray series (standing AP, standing Rosenberg at 45 degrees of flexion, Sunrise view of patellae, lateral views).
- 2) Initiate treatment with RICE, NSAIDs, decrease weight bearing activities, possibly PT twice per week for 1 month.
- 3) If there is a fracture then refer to orthopedic surgery.
- 4) If osteoarthritis or normal x-rays and the patient does not improve with initial treatment in two to four weeks then refer to physiatry medicine/orthopedic surgery.

Traumatic Mild to Moderate Knee Pain:

- 1) As noted above for severe traumatic knee pain; however, if no signs of an internal knee derangement then initiate treatment including pharma and PT twice per week for 1 month, and refer patient to physiatry medicine if no significant improvement in four to four to six weeks.

Traumatic Severe Knee Pain:

- 1) Obtain x-rays as noted above unless the patient is not able to weight bear, then non-weight bearing views. If fracture, refer to orthopedic surgery.
 - a. If no fracture; however, there is clinical evidence (large effusion, ligamentous laxity, lack of full ROM, positive McMurray's sign) of a significant internal knee derangement (ACL tear, meniscal tear), obtain MRI of the knee and refer to physiatry medicine/orthopedic surgery.
 - b. If no x-ray abnormalities or clinical evidence of an internal knee derangement then initiate pharma treatment and refer to physiatry medicine/orthopedic surgery.

Atraumatic Mild to Moderate Hip Pain:

- 1) Initiate treatment, if no better after six weeks then obtain x-rays and refer to physiatry medicine/orthopedic surgery.

Atraumatic Severe Hip Pain:

- 1) X-rays, standard hip series (2 view of hip in Epic: AP, frog leg lateral), initiate treatments as above.
 - a. Refer to orthopedic surgery for fractures.
 - b. Refer to physiatry medicine/orthopedic surgery for all others.

BONE AND JOINT continued

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Suspected Carpal Tunnel Syndrome:

- 1) If no weakness in the abductor pollicis brevis, then initiate treatment with NSAIDs, splinting and/or analgesics as needed and consider nerve conduction testing prior to referral to physiatry medicine.
 - a. If weakness is present then refer to an orthopedic hand specialist.

Scoliosis:

- 1) Obtain standing scoliosis views, refer to a pediatric orthopedic spine specialist with idiopathic scoliosis that is at high risk for progression

OTOLARYNGOLOGY



General recommendations based on conditions

Cerumen Impaction:

- 1) Trial of Debrox or Colace for 4 days and irrigation by PCP using rubber bulb syringe or 20 cc syringe to serially flush ear canal with room temperature water.
 - a. Avoid irrigation if patient has history of TM perforation or PE tubes.
- 2) Refer to ENT if there's hearing loss, otorrhea, pain, history of ear surgery (including tubes), or not resolving with topical antibiotic ear drops.

Tinnitus:

- 1) Bilateral ear ringing without other symptoms likely requires reassurance only. Encourage patient to mask with broad band white noise.
- 2) If patient has any other ear symptoms (hearing loss, vertigo, otalgia, drainage) refer to ENT.
- 3) If unilateral tinnitus refer to ENT.
- 4) Hearing Loss/Tinnitus: Referral to ENT with a pre-clinic audiogram.

Epistaxis:

- 1) If not active, trial of nasal saline spray or lubricant such as Nasogel or Vaseline.
 - a. For active bleed: have patient blow out all clots, spray Afrin 2-3 times in each nostril, pinch nostrils firmly (not nasal bones), tip head forward, and hold pressure for 10 minutes. If bleeding persists, repeat or send to ER.
- 2) Reverse any anticoagulation if appropriate.
- 3) Active bleeding referred to ENT or ER.

Sore Throat:

- 1) If persistent sore throat for more than 2 weeks, refer to ENT.
- 2) If persistent lymphadenopathy, hemoptysis, dysphagia or hoarseness refer to ENT.

Sinusitis:

- 1) Uncomplicated Acute Sinusitis: Up to 4 weeks of nasal congestion, mucopurulent nasal drainage, facial pressure, reduced sense of smell.
 - a. Does not require referral to ENT unless atypical symptoms or red flags (facial or orbital cellulitis or neurologic symptoms).
- 2) Chronic Sinusitis: 12+ weeks of purulent drainage, nasal congestion, facial pressure, or decreased sense of smell.
 - a. Antibiotic therapy for 3 weeks and/or failed nasal corticosteroid use x1 month → refer ENT.

Dizziness:

- 1) Establish if patient has dizziness or vertigo.
 - a. Vertigo: room spinning lasting minutes to hours to days, very likely an ENT problem.
 - b. Dizziness: Lightheadedness, feeling off balance, woozy, gait instability, less likely an ENT problem. Consider other causes of symptoms such as circulatory, metabolic, or neurologic disorders (including diabetic neuropathy).
- 2) If patient reports dizziness with changing body position (sitting to standing), obtain orthostatics, especially if cardiovascular comorbidities.
- 3) If history of migraine, concussion, or head trauma, refer to neurology first to rule out central or neurologic etiology.

- 4) If concurrent hearing loss, tinnitus, otalgia, or aural fullness, refer to ENT.
- 5) Recommend NOT prescribing meclizine (Antivert) for the dizzy patient. Low dose Valium 1-2 mg PO Q8H PRN can be more effective.
- 6) For symptoms of benign positional vertigo (room spinning lasting 30 seconds triggered by rolling over in bed, looking up, changing head positions) consider referral directly to physical therapy.

Ear pain:

- 1) If normal ear exam without subjective hearing loss, palpate temporomandibular joint and muscles of mastication to assess for TMJ dysfunction and/or Myofascial Pain Dysfunction, a common source of ear pain—especially bilateral otalgia.
- 2) Consider referral to dentist for TMJ dysfunction.

Chronic Otitis Media:

3 month observation period → Formal audiogram if no improvement → refer to ENT.

Nasal Obstruction/Nasal Allergies:

1 month nasal corticosteroid emphasizing DAILY use → refer ENT.

Obstructive Sleep Apnea:

- 1) Adults: sleep study → CPAP trial as initial therapy if abnormal PSG (AHI>5) → refer if failing CPAP.
- 2) Pediatric: offer polysomnogram if parents want proof of apnea before considering surgery → refer to ENT if sleep study is abnormal (AHI>1).

Hoarseness:

Lasting longer than 3 weeks → refer to ENT.

PULMONARY MEDICINE



COPD:

- 1) Considerations
 - a. Diagnosis is made by spirometry demonstrating airways obstruction.
 - i. As risk factors of COPD are also risk factors for coronary artery disease, this needs to be considered in the differential of the smoker with dyspnea.
 - ii. In some obese patients, spirometry may reveal restriction without obstruction.
- 2) When to Refer
 - a. Usual treatment in mild disease is a combination of short acting beta agonists and short acting anticholinergics. More severe disease long-acting beta agonists and long-acting anticholinergics are used. Patients with frequent exacerbations the addition of inhaled corticosteroids can be considered.
 - i. Patients who remain symptomatic despite the above treatment regimen should be considered for pulmonary referral.
 - b. If needs chronic daily prednisone, theophylline, or roflumilast.
 - c. If needs supplemental oxygen.
- 3) Tests Prior to Referral
 - a. Spirometry (pre and post bronchodilator if obstructed) is strongly recommended to confirm the presence of obstruction and grade the severity as symptoms to not correlate well with degree of impairment with many patients with severe obstructing minimizing symptoms.
 - b. Liberal testing for alpha 1 antitrypsin deficiency is recommended. Specifically testing for the genotype and not an alpha-1 antitrypsin level is recommended.
 - c. Consider exercise oximetry to evaluate for exertional desaturation.

Lung Cancer/Nodules and Screening:

Lung Cancer Screening: Lung cancer screening with an annual low dose CT is recommended for patients meeting all of the following three criteria (this is a covered benefit for all ACA participating plans).

- 1) Age 55-80, Smoking history > 30pkyr, and either actively smoking or having quit <15 years.
- 2) Shared decision-making statement is also required confirming the patient understands the risks and benefits of screening.
- 3) Realize 60% of screened patients have nodules, 94-97% are benign/false positives.

Lung Nodules (small nodules):

- 1) Considerations
 - a. Frequently encountered on chest imaging and often are a source of great concern to the patient and a source of considerable liability for the clinician.
 - b. General recommendations are for lung nodules > 4mm in size (all patients) and <4mm (smokers or patients with cancer history) to be followed with serial imaging until stable for 2-3 years.
 - c. Fleischner Society Guideline via fleischnersociety.org, outlines surveillance strategy (mobile app also available).
- 2) When to Refer
 - a. Pulmonary referral can be considered for any lesion > 8mm or increasing in size.
 - i. Follow up and decision making can be cumbersome for the primary physicians and some nodules require up to 5 years of surveillance.

Lung Masses/Suspicious Nodules:

- 1) Considerations
 - a. Concerning nodules should be considered for referral for pulmonary consultation prior to referral for a biopsy procedure.
 - b. Current technologies (Endobronchial Ultrasound EBUS and Electromagnetic Navigational Bronchoscopy ENB) potentially allow for a bronchoscopic diagnosis and staging procedure in one setting rather than subjecting the patient to two procedures.
- 2) When to Refer
 - a. Referral should be considered prior to ordering a biopsy procedure. CT guided biopsy, while high yield often does not adequately stage the patient and has a significant pneumothorax risk (20-30%).

Chronic Cough:

- 1) Considerations
 - a. Chronic cough in adults is defined as a cough lasting more than **8 weeks**.
 - b. Acute cough is most likely d/t bronchitis or upper respiratory tract infections.
 - c. Chronic cough in 95+% of patients is d/t to one or more of the following three diagnoses (GERD, Upper airway cough syndrome formerly called post nasal drip syndrome, and asthma) if not on an ACEI and a documented normal CXR.
- 2) Tests prior to referral
 - a. CXR and spirometry.
 - b. Empiric therapy for GERD, UACS, and asthma is recommended but must be a prolonged course (several months, not several weeks).

Hemoptysis:

- 1) Considerations
 - a. Acute, small volume hemoptysis in a nonsmoker is mostly likely due to acute bronchitis and will generally resolve with a course of antimicrobials and time.
 - b. If the CXR reveals findings concerning for tuberculosis, the patient should be given a simple mask and asked to remain at home until tuberculosis is excluded with serial sputum analysis.
 - i. Consider a referral to Lanakila Comprehensive Health Center for testing or Pulmonary or ID consultation.
 - c. Hemoptysis **should not be ascribed to use of anticoagulant therapy** (warfarin, clopidogrel, aspirin etc.) therapy with these agents should not be associated with hemoptysis.
- 2) When to Refer
 - a. Small volume hemoptysis which recurs after a trial of antimicrobial therapy (If bronchitis is suspected), or for which there is no clear etiology.
 - b. Large volume hemoptysis should prompt referral to the Emergency Department.
- 3) Tests Prior to Referral
 - a. Minimum, CXR PA/LAT.
 - b. If the hemoptysis persists and CXR is unrevealing, non-contrast CT Chest is recommended.

PULMONARY MEDICINE continued



Obstructive Sleep Apnea:

- 1) Considerations
 - a. OSA so prevalent that management can be reasonably done by the primary care physician. CPAP device settings and masks are generally outlined in the sleep study report.
 - b. OSA should be considered in patients with symptoms such as loud snoring, witnessed apnea/gasping, daytime sleepiness/fatigue, frequent nocturia, morning headaches. There also is a high association with the metabolic syndrome (HTN, DM, HLP, centripetal obesity).
 - c. Physical exam findings suggestive of OSA include a narrowed airway (Mallampati grades III and IV, visualization of only the base on the uvula or soft palate on tongue protrusion), micrognathia or “overbite”, thick neck (circumference > 17 inches, conjunctival injection, large “kissing tonsils”, and morbid obesity. Morbid obesity alone is not sufficient reason to pursue sleep testing. Patients with a normal BMI may have OSA.
 - d. All patients who report excessive sleepiness should be counselled not to drive or operate heavy machinery until their sleepiness is resolved.
 - e. The majority of patients (90%+) will tolerate CPAP if they understand the rationale for therapy and they understand that with changes to settings and mask interfaces most problems tolerating CPAP can be resolved.
- 2) When to Refer
 - a. Complicated sleep patients (those with severe apnea or intolerance of CPAP therapy should be referred to Sleep or Pulmonary Medicine).
 - b. Surgical options are not first line and have a disappointing efficacy. Surgery is appropriate for selected patients who understand the success may be 50% or less.
- 3) Tests prior to Referral
 - a. A screening tool STOP-BANG via stopbang.ca/osa/screening.php, can help identify patients who might be appropriate for polysomnography testing, as well as an Epworth Sleepiness Scale via sleepapnea.org/wp-content/uploads/2017/02/ESS-PDF-1990-97.pdf, which is a measure of daytime sleepiness. Patients with severe OSA often do not perceive the severity of their impairment and may report a normal Epworth score.
 - b. We recommend that the PCP order a polysomnogram (split night study), or home sleep test (HST) prior to referral.
 - i. Home sleep testing is required by most insurers as a first diagnostic step.
 - ii. Patients who qualify for an in-lab test, a “split night study” is recommended, allows the lab to diagnosis and titrate CPAP at the same setting.

Dyspnea:

- 1) Considerations
 - a. Can be due to a myriad of conditions – Correct diagnosis hinges on a detailed history, physical and limited diagnostic testing if needed.
 - b. History is critical, timing, duration of symptoms, alleviating factors, triggers, and the overall symptom complex (wheezing, coughing, chest pressure, palpitations, neurological, throat/voice symptoms etc.).
- 2) When to Refer
 - a. Dyspnea which remains unexplained despite a basic evaluation and/or trial of empiric therapy.
- 3) Tests prior to Referral
 - a. Basic evaluation, spirometry and diffusion capacity, hemoglobin, CXR.
 - b. Additional tests based on clinical suspicion, echo, ECG, stress tests, TSH.

ADULT / PEDIATRIC

ADULT

PEDIATRIC

WOMEN

APPENDIX

GASTROENTEROLOGY

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Colon Cancer Screening, Colon Cancer Surveillance, Colon Polyp Surveillance:

- 1) The gastroenterology sections at HHP Gastroenterology sites use the 2008 US PTF guidelines for screening and surveillance colonoscopy.
- 2) If a patient does not need GI consultation but only colon cancer screening or surveillance, Straub and several other HHP GI sites have a direct access process. The nurses that manage the direct access center will establish that the patient meets the appropriate guidelines before scheduling colonoscopy or any other colon cancer screening modality.
- 3) If there is a question as to whether the patient fits the guidelines, or if a patient has questions or a desire to meet the physician prior to a procedure, an appointment will be made with a gastroenterologist.
- 4) If your patient does not want a colonoscopy the next best test is a FIT (fecal immunochemical test).
 - a. The FIT is not recommended for a patient with a family history of colon cancer, personal history of colon polyps, or colon cancer.

| Risk | Age Colonoscopy Due |
|---|---|
| Average Risk | 50 years old |
| African American | 45 years old* |
| 1st degree relative diagnosed with colon cancer younger than 60 years old | 40 years old or 10 years before the relative's age of diagnosis |
| 1st degree relative diagnosed with colon cancer at 60 years or older | 40 years old (if normal screening schedule follows that of someone of average risk) |

* By some guidelines – not universal

Inflammatory Bowel Disease:

- 1) Consider referral for patients (18 years old or older) with inflammatory bowel disease (ulcerative colitis or Crohn's disease) or suspected inflammatory bowel disease.
- 2) Consider the following evaluation prior to GI consultation: CBC, stool culture, stool for C. diff toxin, sedimentation rate, and C-reactive protein, liver panel, and metabolic panel.

Irritable Bowel Syndrome (IBS):

- 1) Consider referral for patients whose diagnosis is uncertain.
- 2) Consider referral for patients when there is suspicion of other pathology or when symptoms are not consistent with irritable bowel such as nocturnal diarrhea, anemia, and weight loss.

Chronic Diarrhea:

- 1) Consider referral for patients who have diarrhea of greater than 2 weeks duration that is unexplained.
 - a. Perform stool cultures, C. difficile, hemocult, CBC, TSH, and consider giardia antigen/ova and parasite examination if risk factors present (travel to endemic areas, exposure to fresh or stagnant water, etc.).
- 2) Consider referral for patients with diarrhea and associated weight loss, diarrhea that awakens from sleep, or diarrhea associated with joint pain, rash or fever.
- 3) Consider referral for patients with suspected celiac disease and/or positive celiac serology. (preferred serology is the Celiac Disease Reflexive Cascade – Order SO30048060)
- 4) Consider referral for patients who are suspected of having malabsorption or mal-digestion of small bowel or pancreatic origin.

Constipation:

- 1) Consider referral for patients with constipation that is refractory to usual cathartics or when the constipation represents a change in bowel habit.

Gastroesophageal Reflux Disease:

- 1) Consider referral for patients who have alarm symptoms (dysphagia, odynophagia, anemia, melena, hematemesis, unexpected weight loss, or mass on abdominal exam).
- 2) Consider referral for patients who are not responding well to standard anti-secretory medication (proton pump inhibitors and/or H2 blockers).
- 3) Consider referral for patients who have had chronic GERD symptoms (greater than 5 years), particularly Caucasian men as they are at highest risk for Barrett's esophagus.
- 4) Consider referral for patients, who are thought to have atypical GERD manifestations, such as cough, laryngitis, asthma, etc.

Dysphagia:

- 1) Consider referral for patients who have dysphagia or odynophagia.

Dyspepsia:

- 1) Consider referral for patients over the age of 40 who have dyspepsia, either chronic (if not previously evaluated) or sudden onset.
- 2) Consider referral for patients under the age of 40 who have dyspepsia and have undergone testing for *Helicobacter pylori* and treatment if positive, and who continue to have symptoms.
- 3) Consider referral for patients with dyspepsia who have alarm symptoms (unexpected weight loss, evidence of GI blood loss such as guaiac positive stools, melena, or anemia).

Anemia:

- 1) Consider referral for patients who have iron deficiency anemia documented by lab unless there is an obvious source other than the GI tract such as heavy menstrual flow.
- 2) Consider referral for patients suspected of pernicious anemia (test for this in patients with B12 deficiency without a known cause) or atrophic gastritis.

GI Bleeding:

- 1) Patients with active GI bleeding should be admitted to the hospital and inpatient gastroenterology consultation obtained. Patients who may not need emergent evaluation can always be evaluated in an urgent fashion in the GI office – please call and we can often see the patient within 24 hours (and often the same day).
- 2) Consider referral for patients with hematochezia who do not have an identified source.
- 3) Consider referral for patients with guaiac positive stools, melena or hematemesis.

Abnormal Liver Tests:

- 1) Consider referral for patients with abnormal liver enzymes where there is no explanation or when there is a known liver disease which requires treatment or follow-up.
- 2) Consider ordering an acute hepatitis panel in advance.
- 3) Consider referral for patients who have a chronic liver disease such as autoimmune hepatitis, primary biliary cholangitis, alcoholic liver disease, metabolic liver disease (hemochromatosis) and nonalcoholic fatty liver disease (NAFLD).

Biliary Tract Disease:

- 1) Consider referral for patients who have liver chemistries, signs, symptoms or imaging studies suggestive of bile duct obstruction such as choledocholithiasis, bile duct tumor or bile duct inflammation.

Chronic Hepatitis B and C:

- 1) Consider referral for patients who are found to have chronic Hepatitis B or C. For patients with hepatitis B, please obtain liver panel, CBC, hepatitis B viral load, hepatitis B antigen, and hepatitis B antibody.
 - a. For patients with hepatitis C, please obtain liver panel, hepatitis C viral load, and hepatitis C genotype.
- 2) If the patient is found to have a positive hepatitis C antibody, please obtain a hepatitis C quantitative PCR.
 - a. If the PCR is negative the patient does not need referral (they do not have hepatitis C). The preferred test is the HCV PCR with Reflex Genotype (Order SO30048458).

Pancreatic Disease:

- 1) Consider referral for patients who are noted to have abnormal pancreatic imaging (especially any pancreatic cystic lesions) including those who need endoscopic ultrasound.
- 2) Consider referral for patients who are thought to have chronic pancreatitis particularly when etiology is not clear.

Suspected Cancer:

- 1) Consider referral for patients with suspected neoplastic disease (abnormal imaging, elevated serologic tumor markers) of liver, pancreas, biliary tract, esophagus, stomach, small intestine or colon.
- 2) Consider referral for patients who may need EUS (endoscopic ultrasound).

NEUROLOGY

Recent Stroke:

- 1) Patient in need of chronic management of their stroke risk factors or further workup for the etiology of stroke.
 - a. Fasting lipid panel within the past 3 months
 - b. Hemoglobin A1C within the past 3 months
 - c. Routine CBC, CMP within the past 3 months
 - d. Neuroimaging (CT/CTA, MRI/MRA, carotid US) done at the initial treating facility (please upload films into Synapse or ask patient to bring the disk)
 - e. TTE or TEE report uploaded into media

Dementia:

- 1) Most of these referrals seem to be for either: differential diagnosis, counseling of the patient and family on prognosis and treatment options, and for management of dementia patients with behavior problems.
 - a. Vitamin B12 (Homocysteine and Methylmalonic acid if B12 < 250 pg/mL)
 - b. TSH and FT4
 - c. RPR
 - d. CBC, CMP
 - e. MRI of the brain without contrast (dementia protocol)
 - f. Depression screen (GDS or PHQ-2)

Peripheral Neuropathy:

- 1) CBC, CMP, HgbA1C, vitamin B12 within the past 3 months
- 2) We recommend that more specialized tests for specific causes of neuropathy should be ordered by the consulting neurologist to avoid overutilization of esoteric testing.
- 3) EMG /NCS may be ordered by the PCP (EMG/NCV Procedure Code 500105), but if the PCP is unsure, the need may also be determined by the neurologist.
- 4) If the patient has had cancer chemotherapy, please inform us of the agents used, especially if the oncologist is not within HHP.

Seizure/Epilepsy:

- 1) Neurology consultation is recommended if the seizures are not caused by a reversible cause such as hyponatremia or alcohol withdrawal.
 - a. CBC, CMP within the past 3 months
 - b. Consider urine toxicology if there is concern over methamphetamine use
 - c. MRI brain with and without contrast (seizure protocol)
 - d. Reports from prior EEGs uploaded into media
 - e. Please ask patient and family to prepare a list of previously used antiepileptic medications (dosage, side effects, effectiveness, etc.)

OPHTHALMOLOGY

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Ophthalmic Emergencies:

- 1) Immediate phone call/referral to an Ophthalmologist during clinic hours:
 - a. Chemical injury to eyes (irrigate for 20 minutes first, then refer).
 - b. Eye/lid/periocular trauma, suspected foreign bodies.
 - c. Sudden vision loss.
 - d. Postoperative patients with eye pain, vision loss or symptoms of infection.
 - e. Recent onset of flashes/floaters/curtains over vision.
 - f. Recent onset of double vision, pupil change or ptosis.

Criteria for Prompt Referral to an Ophthalmologist:

- 1) A person who exhibits any of the following signs, symptoms, or diseases should be referred promptly to an ophthalmologist for definitive diagnosis and necessary medical treatment:
 - a. Significant eye injury, eye pain, or periocular trauma, suspected corneal abrasion, ulcer or foreign body.
 - b. Symptoms of flashes of light; recent onset of floaters, halos, transient dimming, or distortion of vision; obscured vision; loss of vision or pain in the eye, lids, or orbits; double vision; or excessive tearing in the eye.
 - c. Transient or sustained loss of any part of the visual field, or clinical suspicion or documentation of such field loss.
 - d. Tumor or swelling of the eyelids or orbit, or protrusion of one or both eyes.
 - e. Inflammation of the lids, conjunctiva, or globe, with or without discharge, ophthalmic zoster, facial palsy.

Criteria for Routine Appointment to an Ophthalmologist:

- 1) A person who exhibits any of the following signs, symptoms, or diseases should be referred for routine appointment to an ophthalmologist for definitive diagnosis and necessary medical treatment:
 - a. Change in vision for the worse in either eye, unless the case of the impairment has been medically confirmed by prior examination and visual acuity is stabilized. (Different levels of visual acuity screening for different ages of preschool children have been established to accommodate the maturity of the child).
 - b. Abnormalities or opacities in the normally transparent media of the eye, or abnormalities of the ocular fundus or the optic nerve head.
 - c. Strabismus or crossed eyes that do not straighten with glasses.
 - d. Family history of glaucoma, especially in patients of African or Hispanic origin.
 - e. Diabetes mellitus without a recent retinal examination.
 - f. Eye and orbital abnormalities associated with thyroid disease (Grave's disease).
 - g. Other history, symptoms, or signs that indicate the need for an ophthalmologist to perform an eye examination or treatment.
 - h. Patients with AIDS, HIV positive.
 - i. Hydrochloroquine patients on medication more than 5 years should have yearly exams.

UROLOGY

healthier

Microhematuria or Gross Hematuria: AUA guidelines 2012

- 1) Needs urine microscopy (x2) to confirm ≥ 3 rbc/hpf, not based only on UA dipstick.
- 2) Upper tract imaging – CT IVP if no contraindication. A cystoscopy if over 35 years.
- 3) MRI abdomen/pelvis with contrast or renal ultrasound as alternative.
- 4) Urine cytology and urine markers (NMP22, BTA-stat, and UroVysion FISH) is NOT recommended prior to urologic consultation.

Referral after the UA and imaging should be considered.

Benign Prostate Hyperplasia (BPH): AUA guidelines 2014

- 1) PH with resulting lower urinary tract symptoms (LUTS) include storage and/or voiding disturbances in aging men – frequency, nocturia, urgency, sensation of incomplete emptying, intermittency, straining, weak stream.
- 2) UA recommended
- 3) Digital rectal exam (DRE) recommended
- 4) Trial of medical management with alpha blockers (Flomax, Uroxatral, Fapaflo, Hytrin, Cardura). If not improved in 1 month referral can be considered.
- 5) Use of Proscar or Avodart should be considered if the prostate gland is enlarged on DRE and PSA >1.5

Detection of Prostate Cancer: AUA guidelines 2013

- 1) Men under 40 year of age should not have routine PSA screening.
- 2) Men 40-54 years of age should have PSA screening done on individual basis for those at higher risk (family history and / or African American race).
- 3) Men 55-69 years of age recommend shared decision-making with the patient for PSA screening.
- 4) Men 70+ years of age or less than 10 years life expectancy do not recommend routine screening.
- 5) Men 70+ year of age in excellent health may benefit from routine PSA screening.
- 6) PSA testing should be done with instructions of no ejaculation for 3-5 days before the testing.

Digital rectal exam (DRE) recommended. Referral at any time can be considered.

Erectile Dysfunction (ED): AUA guidelines 2011

- 1) Trial of medical management with PDE 5 inhibitors (Levitra, Viagra, Cialis) if not contraindicated.

Referral at any time can be considered.

Nephrolithiasis: AUA guidelines 2014

- 1) First time stone patient with passage of stone and no other stones on imaging study does not require routine referral.
- 2) UA should be obtained.
- 3) Straining of all urine should be done to obtain stone for analysis if stone in ureter.
- 4) CT KUB preferred for the initial diagnosis – routine follow-up with x-ray KUB or renal ultrasound in 1 year. If increase in size, consider referral.
- 5) Recurrent stone former should be followed by urology for metabolic work up. Refer if 6 weeks of less than 1cm stone in ureter.

Referral at any time can be considered.

Male Infertility: AUA guidelines 2011

- 1) At least one year of unprotected sexual intercourse without conception.
- 2) Semen analysis x 2 samples (abstain from ejaculation for at least 3-5 days before providing sample and needs to be at the lab within 30 minutes of collection).
- 3) If semen analysis is abnormal order scrotal ultrasound and refer to urology.

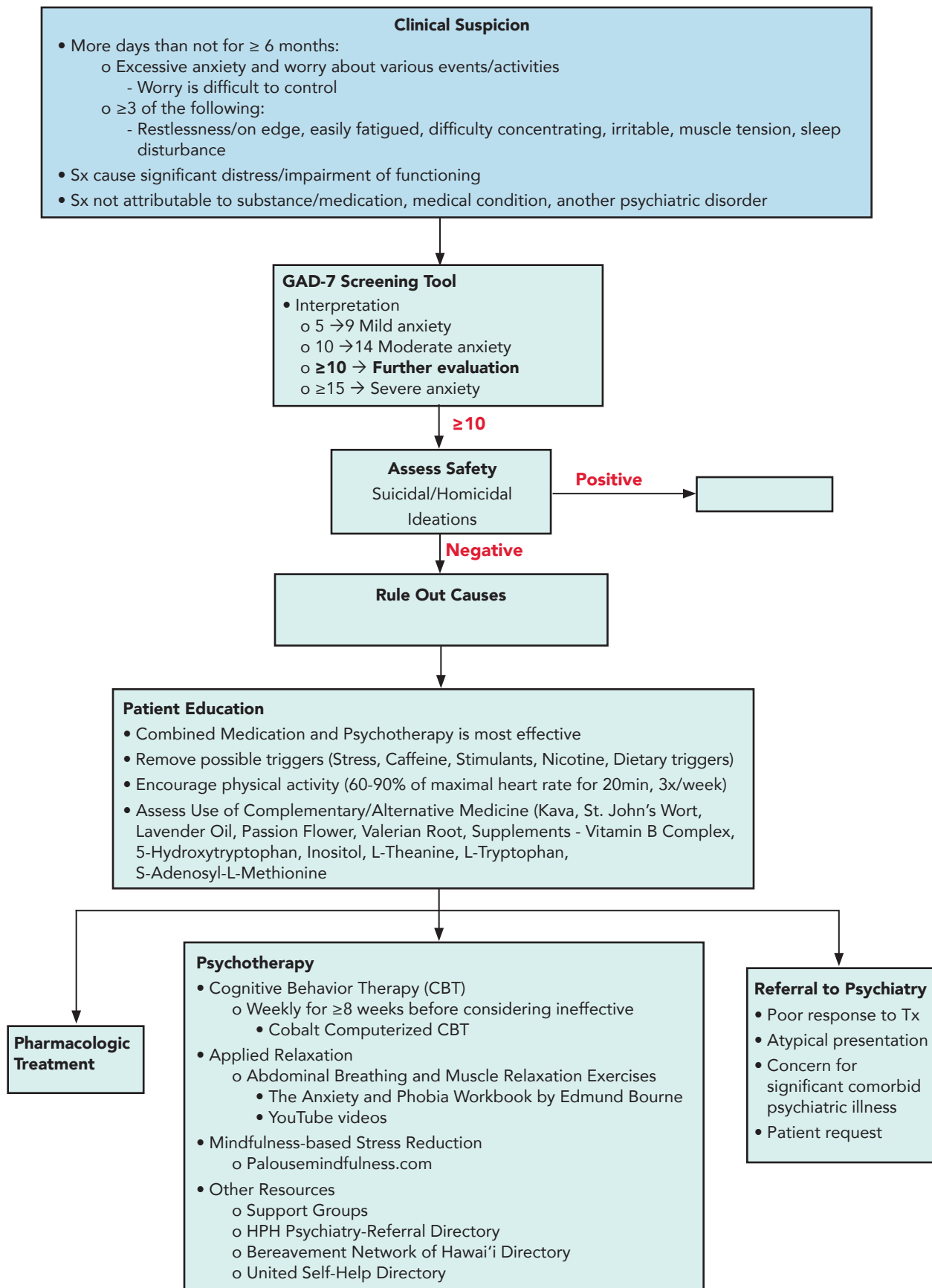
Recurrent Urinary Tract Infections: AUA update 2016

- 1) Greater than 2 documented infections per year.
- 2) UA and Urine Culture should be obtained.
- 3) Should have culture proven urinary tract infection – may require lab comment when ordering urine culture “run to complete.”
- 4) Renal ultrasound can be considered prior to referral.

Overactive Bladder (OAB): AUA guidelines 2014

- 1) Is a symptom complex – frequency, urgency, nocturia, that can be easily quantified by having the patient do a voiding diary marking every time they void in a 24 hour period greater than 8 is consistent with OAB.
- 2) UA and Urine Culture recommended.
- 3) Trial of medical management for 1 month with anti-muscarinics (Detrol, Ditropan, Vesicare, Sanctura – some available in immediate release and extended release) if not contraindicated.

ADULT BEHAVIORAL HEALTH: TREATMENT FOR GENERALIZED ANXIETY DISORDER ALGORITHM



ADULT BEHAVIORAL HEALTH: TREATMENT FOR GENERALIZED ANXIETY DISORDER

1st Line of Medications

SSRIs: Start with low or medium doses and titrate every 4-6 weeks as tolerated. Try max dose for 6 weeks.

| SSRI Medication | Dosage Range | Cost of 1 month supply: Generic (Brand) |
|-----------------|--------------|---|
| Citalopram | 10-40mg | \$4-8 |
| Escitalopram | 10-20mg | \$10-22 |
| Fluoxetine | 10-60mg | \$4-5 |
| Paroxetine | 10-40mg | \$9-10 |
| Sertraline | 50-150mg | \$7-15 |



Not Effective

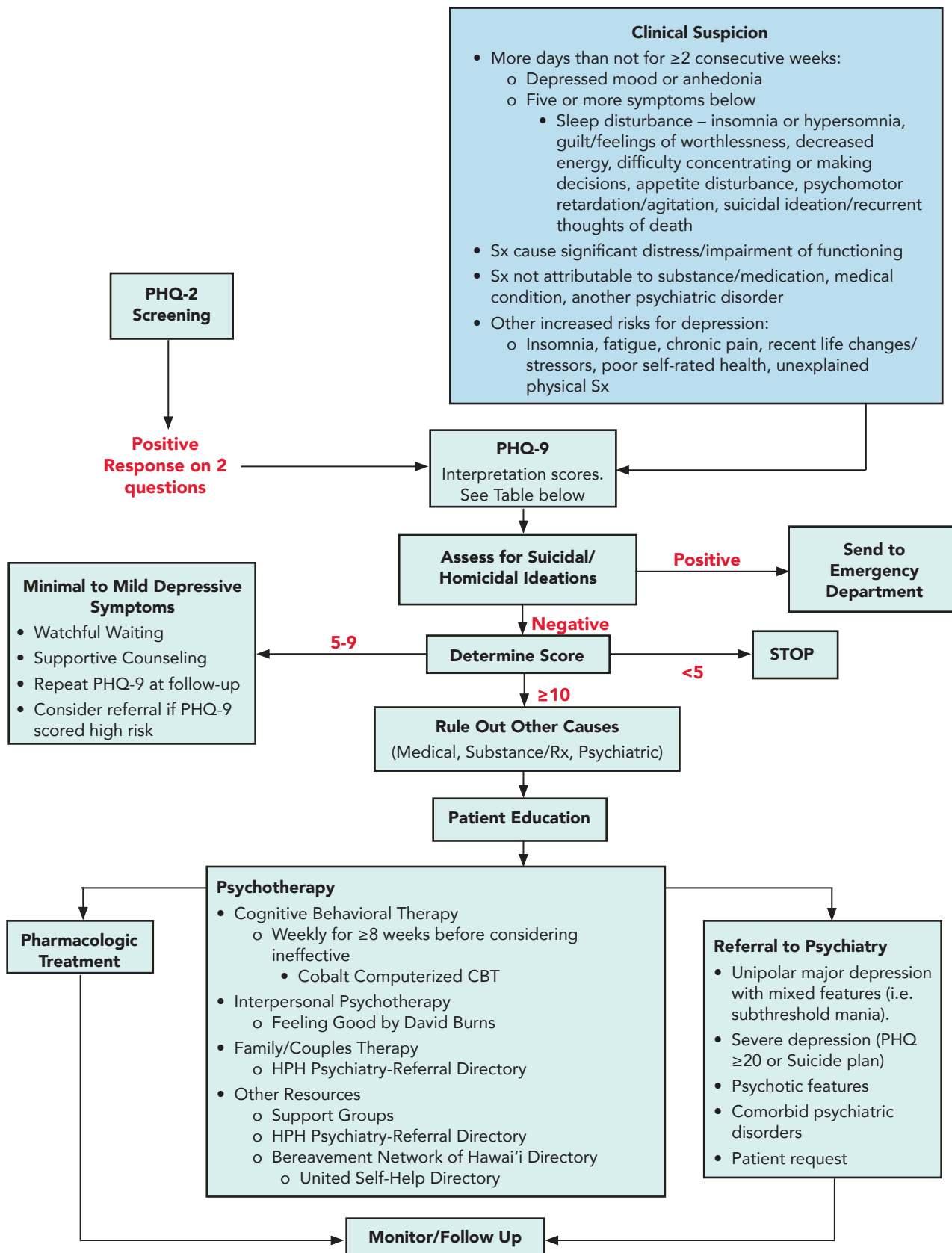
2nd Line of Medications:

| Medication | Dosage Range | Cost of 1 month supply: Generic (Brand) |
|--------------------------|--------------|---|
| SNRIs: | | |
| Venlafaxine | 37.5-225 mg | \$13-30 |
| Desvenlafaxine | 25-100 mg | \$25-50 |
| Duloxetine | 20-60 mg | \$15-50 |
| Quetiapine | 25-150 mg | \$7-10 |
| Buspirone | 10-60 mg | \$5-7 |
| Antihistamine: | | |
| Hydroxyzine | 25-100 mg | \$4-10 |
| Diphenhydramine | 25-100 mg | \$5-20 |
| Gabapentin | 100-1200 mg | \$7-10 |
| Benzodiazepines: | | |
| Short-acting: Alprazolam | 0.25-3 mg | \$5-10 |
| Medium-acting Lorazepam | 0.5-3 mg | \$5-10 |
| Long-acting: Clonazepam | 0.5-3 mg | \$5-10 |
| Beta blocker: | | |
| Propranolol | 10-40 mg | \$8-10 |

ADULT BEHAVIORAL HEALTH: ANXIETY MEDICATION RELATED PROBLEMS & CONSIDERATIONS

- 1) Overweight or Weight Gain:
 - a. Add or switch to Bupropion (150-450 mg)
 - b. For less weight gain than SSRI's
 - i. Consider Venlafaxine (37.5-225 mg) or Desvenlafaxine (25-100 mg)
- 2) Sexual Dysfunction/Sexual Side Effects:
 - a. Add or switch to Bupropion (150-450 mg), Duloxetine (20-60 mg), Mirtazapine (15-45 mg), Buspirone (10-60 mg)
 - b. Add to antidepressant: Sildenafil (50-100 mg prn), Tadalafil (5-20 mg prn), Amantadine (100-200 mg), Cyproheptadine (4 mg bid/tid), Yohimbine (5.4 mg bid/tid)
- 3) Considerations:
 - a. Elderly → Start low, Go slow, Avoid Paroxetine
 - b. Pregnancy → Continue Tx, use Fluoxetine (10-60 mg) and/or Sertraline (50-150 mg), Avoid Paroxetine
 - c. Breastfeeding → Paroxetine and Sertraline are safest
- 4) Medication Switching/Cross Tapering of Antidepressants:
 - a. Generally SSRI's/SNRI's could be tapered over a period of 2-4 weeks or longer gradually, some with longer half-life like Fluoxetine/Prozac could be tapered over 1- 2 weeks only. Taper off one med completely over 2 weeks and add a new one or you could add a new med while you are tapering the old medication, but with caution at a low dose and titrate slowly. **If unsure, please call Psychiatry.**

ADULT BEHAVIORAL HEALTH: MAJOR DEPRESSIVE DISORDER ALGORITHM



ADULT BEHAVIORAL HEALTH: INTERPRETATION OF PHQ-9 SCORES FOR MAJOR DEPRESSIVE DISORDER

| Diagnosis | Total Score | Action |
|------------------------------|-------------|---|
| Minimal depression | 0-4 | Score \leq 4: Suggests the patient may not need depression treatment |
| Mild depression | 5-9 | Score 5-14: Physician uses clinical judgment about treatment, based on patient's duration of symptoms and functional impairment |
| Moderate depression | 10-14 | |
| Moderately severe depression | 15-19 | Score $>$ 14: Warrants treatment for depression, using antidepressant, Psychotherapy and/or a combination of treatment. |
| Severe depression | 20-27 | |

ADULT BEHAVIORAL HEALTH: TREATMENT FOR MAJOR DEPRESSIVE DISORDER

1st Line of Medications

SSRIs: start with low or medium doses and titrate every 2-4 weeks as tolerated. Try max dose for 6 weeks.

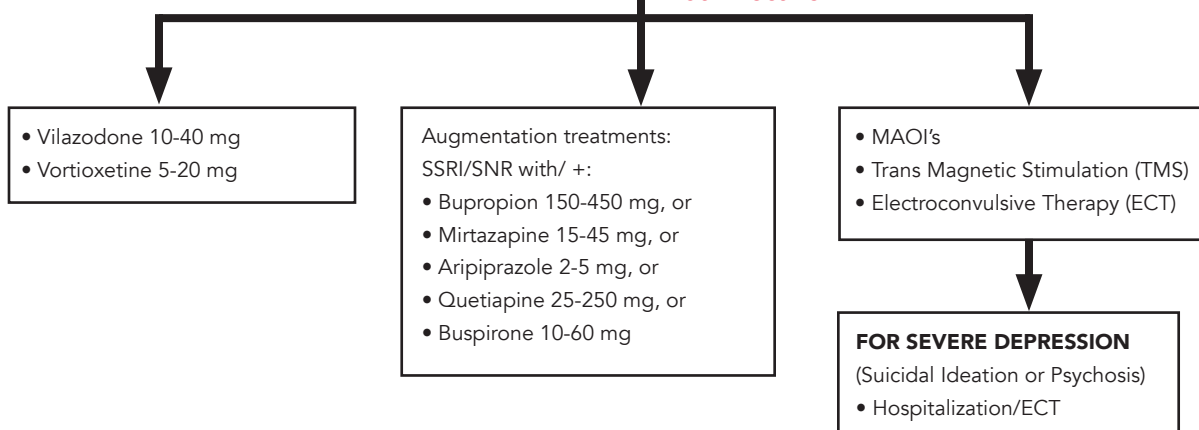
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| Sertraline | 50-200mg | \$7-15 |

Not Effective

2nd Line of Medications

| Medication | Dosage Range | Cost of 1 month supply: Generic (Brand) |
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| Venlafaxine | 37.5-225 mg | \$13-30 |
| Desvenlafaxine | 25-100 mg | \$25-50 |
| Duloxetine | 20-60 mg | \$15-50 |
| Bupropion | 150-450 mg | \$20-25 |
| Tricyclic antidepressants: | | |
| Nortriptyline | 25-100 mg | \$4-15 |
| Imipramine | 25-100 mg | \$9-15 |
| Trazodone | 100-150 mg | \$4-12 |

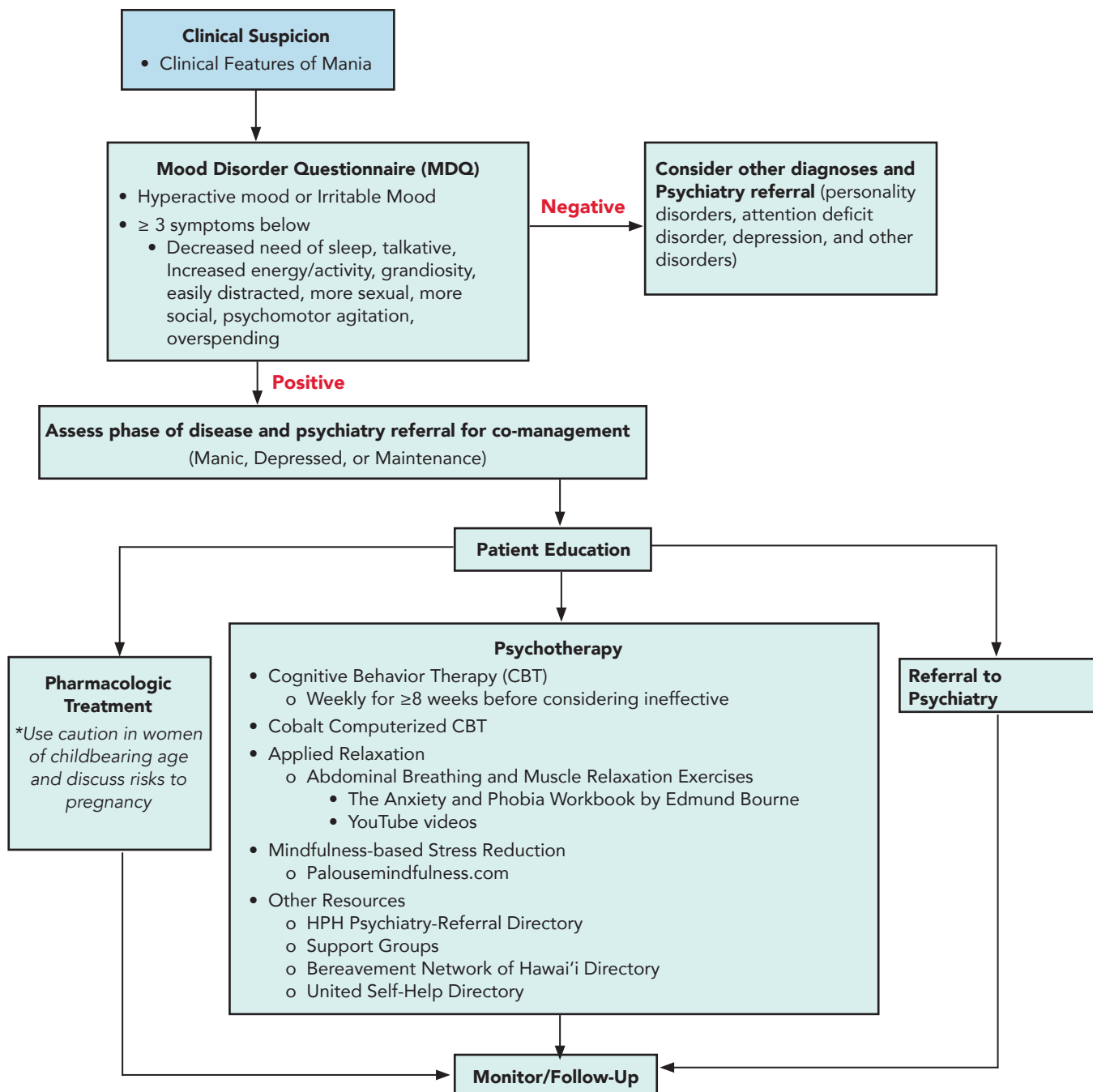
Not Effective



ADULT BEHAVIORAL HEALTH: DEPRESSION MEDICATION RELATED PROBLEMS & CONSIDERATIONS

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 - c. Breastfeeding → Paroxetine and Sertraline are safest
- 4) Medication Switching/Cross Tapering of Antidepressants:
 - a. Generally SSRI's/SNRI's could be tapered over a period of 2-4 weeks or longer gradually, some with longer half-life like Fluoxetine/Prozac could be tapered over 1- 2 weeks only. Taper off one medication completely over 2 weeks and add a new one or you could add a new medication while you are tapering the old medication, but with caution at a low dose and titrate slowly. **If unsure, please call Psychiatry.**

ADULT BEHAVIORAL HEALTH: MOOD DISORDER AND BIPOLAR ALGORITHM



ADULT BEHAVIORAL HEALTH: PHARMACOLOGIC TREATMENT FOR MANIC PHASE

| Medication | Dosage Range | Cost of 1 mo. supply: Generic (Brand) |
|--|---|--|
| MORE URGENT: Valproic Acid Other Options: 2nd generation Antipsychotics Other Antiepileptic Short-term Benzodiazepines Lithium | <ul style="list-style-type: none"> Start at 250 mg 1 to 2 times a day and titrate to 1000-2000 mg/day divided BID to control symptoms Monitor drug levels initially every 2 weeks until therapeutic trough 50-125mcg/ml or symptoms are controlled After therapeutic, monitor every 4-6 months | \$9-12 \$8-30 \$8-50 \$5-10 |
| LESS URGENT: 2nd Generation Antipsychotic to lower dose Quetiapine Fumarate Other Options: 2nd generation antipsychotic Valproic Acid Lithium | <ul style="list-style-type: none"> Start with 25-50 mg at night and titrate up weekly by 25-50 mg to control symptoms to a dose of 200-400 mg BID Consider BID dosing above 200 | \$7-12 \$9-12 \$5-10 |

ADULT BEHAVIORAL HEALTH: PHARMACOLOGIC TREATMENT FOR DEPRESSION

| Medication | Dosage Range | Cost of 1 mo. supply: Generic (Brand) |
|--|---|--|
| MORE URGENT: 2nd Generation Antipsychotic Quetiapine Fumarate Other Options: 2nd generation Antipsychotics plus an SSRI and Lithium | <ul style="list-style-type: none"> 50 mg at bedtime for 1-3 days Then 100 mg at bedtime for 1-3 days Then 200 mg at bedtime for 1-3 days with continued titration to 600 mg at bedtime Consider BID dosing above 200 mg | \$7-12 \$5-10 |
| LESS URGENT: Lamotrigine Other Options: Lithium | <ul style="list-style-type: none"> 25 mg at bedtime for 2 weeks Then 50 mg at bedtime for 2 weeks Then 100 mg at bedtime for 2 weeks Then 200 mg at bedtime Watch for rash | \$7-12 \$5-10 |

ADULT BEHAVIORAL HEALTH: PHARMACOLOGIC TREATMENT FOR MAINTENANCE

| Medication | Dosage Range | Cost of 1 mo. supply: Generic (Brand) |
|---|---|--|
| Lamotrigine Other Options: Lithium Valproic Acid 2nd Generation Antipsychotics | <ul style="list-style-type: none"> • 25 mg at bedtime for 2 weeks • Then 50 mg at bedtime for 2 weeks • Then 100 mg at bedtime for 2 weeks • Then 200 mg at bedtime • Watch for rash | \$7-12 \$5-10 \$9-12 |

ADULT / PEDIATRIC

ADULT

PEDIATRIC

WOMEN

APPENDIX

INITIAL EVALUATION OF A PATIENT WITH CHEST PAIN

healthier

Purpose:

Non-traumatic chest pain is a common symptom in children and adolescents and is a frequent complaint in patients seeking primary, emergent, or subspecialty care. Although the etiology is benign in most cases, this symptom may lead to school absences, restriction of activities and causes considerable anxiety in patients and their families.

A thorough history and physical examination usually can determine the cause and identify patients who require acute intervention and those who can be managed with reassurance and continued follow-up. Laboratory testing is necessary only in a small number of patients. In the absence of associated symptoms of illness, positive findings on physical examination related to the cardiac or respiratory systems, or symptoms during exertion, a serious organic cause is unlikely (Up to date Sept 2016).

Goals of Evaluating Chest Pain:

- 1) Distinguish between acute chest pain vs history of chest pain – acute chest pain will most likely need to be evaluated in emergency room.
- 2) Rule out coronary artery problems, myocardial ischemia, pericarditis, or aortic dissection.

Indications for Referral to the ER:

- 1) Acute chest pain – especially if radiates to neck, jaw, or left arm.
- 2) Acute chest pain associated with diaphoresis, shortness of breath, or syncope.

Indications for Pediatric Subspecialty Consultation or Referral:

- 1) Pain lasts >10 minutes, associated with exercise, radiates to jaw or neck or left arm, or worsens if supine and improves if prone.
 - a. If pain with exertion – restrict exercise until evaluated and cleared by Cardiology.
- 2) Pain in a patient with Marfan Syndrome or phenotype.
 - a. Consider ordering ECHO prior to referral.
- 3) Pain in a patient with prior heart surgery, history of Kawasaki Disease, friction rub on exam.

Recommended Screening Questions and Physical Exam Points:

Questions:

- 1) Duration of pain (not worrisome if seconds or a couple of minutes)
- 2) Quality of chest pain (not worrisome if sharp and precordial)
- 3) Chest pain with exercise (worrisome if occurs during exercise)
- 4) Exertional syncope
- 5) Chest pain that radiates to back, jaw, left arm, or left shoulder, or increases with supine position
- 6) Chest pain temporarily associated with fever
- 7) Screen for other associated symptoms – palpitations, dizziness, syncope, present at rest, worse with inspiration or pleuritic in nature

Physical Exam:

- 1) Accurate vital signs with orthostatic blood pressure as needed
- 2) Presence of murmur, gallop, distant heart sounds, friction rub
- 3) Peripheral edema
- 4) Physical features associated with syndromes (e.g., Marfan Syndrome)
- 5) Sternotomy, thoracotomy

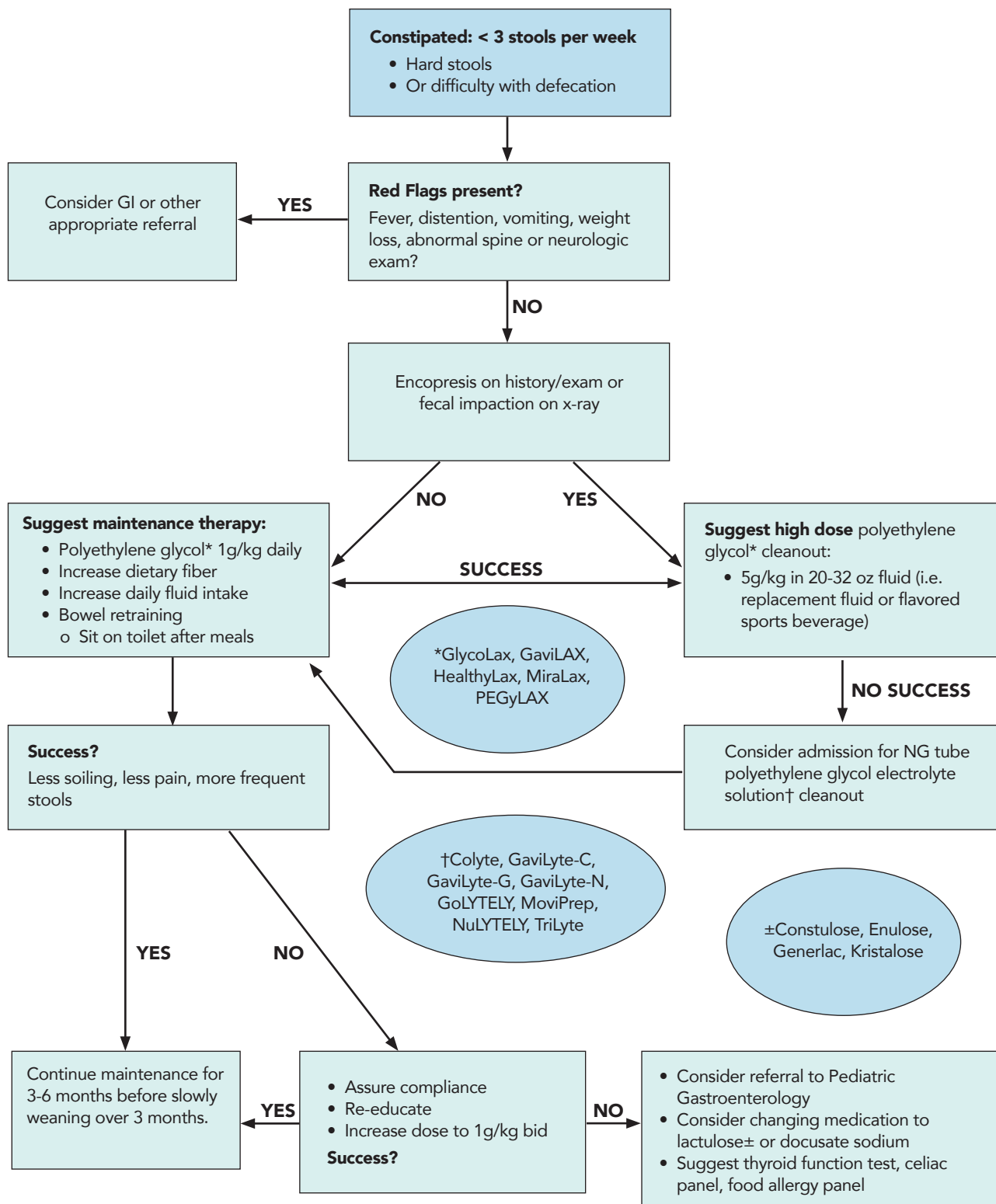
CHEST PAIN continued

healthier

Imaging Options:

- 1) ECHO:
 - a. Helpful only if chest pain occurs with exercise, in Marfan Syndrome, or if history of heart surgery or Kawasaki Disease.
 - b. Specify evaluation of coronary arteries since it's important to look at origin and size of arteries (can specify Kawasaki Disease ECHO protocol).
- 2) EKG – helpful if patient with acute chest pain, ischemia, pericarditis.

CONSTIPATION WORK-UP AND MANAGEMENT ALGORITHM



INITIAL EVALUATION AND MANAGEMENT OF HEADACHES

Background information: Headaches are common in children and >95% are not due to an emergent cause.

Recurrent bothersome headaches may be reported in about 20% of children and the prevalence increases with age (about 5% of younger children and about 25% in older teens).

Primary headache disorder (e.g., migraine headache, tension-type headache)

Secondary headache disorder with headache being one of the symptoms of an underlying condition, more often newly onset: acute febrile illness (e.g., upper respiratory infection, influenza), head trauma, vasculopathy (e.g., AVM, cavernoma) or a potential life-threatening condition such as a central nervous system infection, tumor, or hemorrhage.

Most commonly, childhood headaches are primary headaches or secondary to infectious etiologies outside the CNS and are rarely (< 5%) caused by a serious underlying disorder.

Red Flags (if new, persistent, progressive) indicate need for urgent evaluation/testing – Step 3:

- 1) Abnormal neurological exam (unexplained altered mental status, papilledema, CN VI palsy or other abnormal eye movements, visual field cut, hemiparesis ataxia, etc.).
- 2) Progressive and persistent (unremitting) headache, especially if new onset and poorly responsive to treatment.
- 3) Signs of increased ICP – papilledema, persistent unexplained vomiting, consistently worse when recumbent (middle of night or awakening) or with cough/Valsalva, CN VI palsy.
- 4) Extremely severe abrupt headache onset (“thunderclap” raises suspicion for subarachnoid hemorrhage, although often with associated meningeal or increased ICP signs and relatively uncommon in children).
- 5) Focal neurologic symptoms/signs which are persistent (unresolving) and/or atypical for migraine aura.
- 6) Developmental regression, personality change.

Definition of Pediatric Migraine:

- 1) Headaches episodic, lasting 2-72 hours if untreated, at least 5 episodes (2 episodes if with aura).
- 2) At least 2 of the following characteristics: unilateral location (may be bifrontal, bitemporal, retro-orbital in children), pounding/pulsating quality, moderate or severe pain intensity (inhibits daily activity), aggravation by or causing avoidance of routine activity.
- 3) During headaches, at least 1 of the following: nausea and/or vomiting, photophobia and phonophobia.
- 4) Approximately 10 percent of children with migraine may have associated auras which are most commonly visual (“scintillating scotoma”), but auras could involve sensory (paresthesia), and atypical auras may include speech/language (dysphasia), motor (hemiplegia), brainstem (tinnitus, vertigo, ataxia), symptoms. Auras usually spread over >5 minutes, last 5-60 minutes, usually unilateral, and/or followed within 60 minutes by headache.

Definition of Tension Headache:

- 1) Headaches episodic, lasting 30 minutes to 7 days, at least 10 episodes
- 2) Headache has at least 2 of the following characteristics: pressing/tightening (non-pulsating) quality, mild or moderate intensity, not aggravated by routine physical activity such as climbing or walking stairs
- 3) No vomiting (anorexia may occur)
- 4) No more than one of photophobia or phonophobia

HEADACHES continued

Evaluation and Diagnosis – Step 1:

- 1) A thorough history helps to prevent unnecessary investigation and neuroimaging.
- 2) A headache diary recorded prospectively provides important diagnostic information, is not subject to recall error, may reveal a pattern that is typical for a certain type of headache, and may provide patient insight to triggers.
- 3) Characteristics of headache – age of onset, timing (times of day, days of week), quality (pounding?), severity (e.g., how it affects daily activity), range of frequency, range of duration, location, associated symptoms (nausea, vomiting, light sensitivity, sound sensitivity, vision changes, etc.).

Assess for other causes and exacerbating factors of headaches – Step 2:

- 1) Triggers – stressors, sleep problems (inadequate quantity/quality), not drinking enough, heat, physical activity, menstruation, Valsalva (coughing/bowel movements), standing/lying, certain foods.
- 2) Extracranial causes – systemic illness, head injury, dental caries/abscess, sinusitis, mastoiditis.
- 3) Concurrent medical problems – hypertension, vision problems, seizures, TMJ.
- 4) Assess headache hygiene topics – stressors, adequate sleep, adequate meals and hydration, caffeine intake, exercise and recreational activities, depression/mood.
- 5) Assess how the headaches have impacted daily activities – missed school, can't play sports, enjoyment of recreational activities.
- 6) Previous use of medications to treat headaches – type of medication, dosing, timely administration.
- 7) Consider common cause for conversion to chronic headaches: excessive stress, sleep disorder, depressed mood, and acute medication overuse (> 3 days/week, > 3 weeks).
- 8) Physical exam (nuchal rigidity, signs of trauma, cranial bruit, or neurocutaneous condition?), thorough neurological exam (focal deficits?) and funduscopic exam (papilledema?).
- 9) What helps to alleviate headaches (sleep often is most effective for migraine resolution)?

Yellow flags (Other reasons to consider referral or other testing) – Step 4:

- 1) Occipital/cervical predominant focus.
- 2) Significant associated symptoms of neck and/or back.
- 3) Known risk factor for associated intracranial pathology (e.g., sickle cell disease, immune deficiency, malignancy, vasculopathy, coagulopathy, intracardiac shunt, significant head trauma, neurocutaneous condition, pre-existing hydrocephalus or shunt or progressive macrocephaly).
- 4) Age < 3 years.

Recommendations for Testing (Do for Red flags, but may also consider for Yellow flags) – Step 5:

- 1) Don't perform neuroimaging studies in patients with stable headaches that meet criteria for migraine.
- 2) Neuroimaging generally is not indicated for children with a history of recurrent, episodic headaches that have persisted for greater than six months with no signs or symptoms of neurologic dysfunction or increased intracranial pressure.
- 3) Don't perform a CT for headache when an MRI is available, except if urgently needed in emergency settings for, such as for neurological deterioration, acute bleeding, or fracture.
- 4) MRI is the preferred study, may include contrast if needing to assess for mass, vasculopathy, inflammation/infection.
- 5) Consider LP with opening pressure after MRI if concern for CNS infection, increased ICP (papilledema, consistently worse when recumbent), subarachnoid hemorrhage, or risk factors of idiopathic intracranial hypertension (obesity, OCP use, tetracyclines, retinoic acid).

HEADACHES continued

Treatment Considerations for Primary Headaches – Step 6:

- 1) Essential to educate patient/family regarding common triggers and encourage aggressive maintenance of lifestyle habits to minimize headache frequency and severity (adequate sleep, hydration, stress management, no skipped meals, trigger avoidance, etc.).
- 2) Acute analgesic treatment in adequate doses, administered without delay, but preferably < 3 days/week if possible (e.g. ibuprofen or naproxen, and acetaminophen).
- 3) Avoid some pain medications which can make headaches worse: opioid drugs and drugs containing butalbital. They are not as effective as other migraine drugs, may cause excessive sedation and other systemic side effects, and can lead to withdrawal complications.
- 4) If headaches not improved with #1 and #2, may consider triptans for acute migraine treatment (e.g., sumatriptan, rizatriptan, and others).
- 5) Chronic daily preventative medications: consider if frequent disabling headaches (e.g., persistent significantly bothersome headaches >1/week and/or headaches causing missed school >1/month) despite adequate optimization of lifestyle habits and appropriate trials of acute abortive medications (as in #1 and #2), especially if needing acute rescue medications >3x/week on a regular basis. (e.g. topiramate, amitriptyline, propranolol, cyproheptadine, and others).

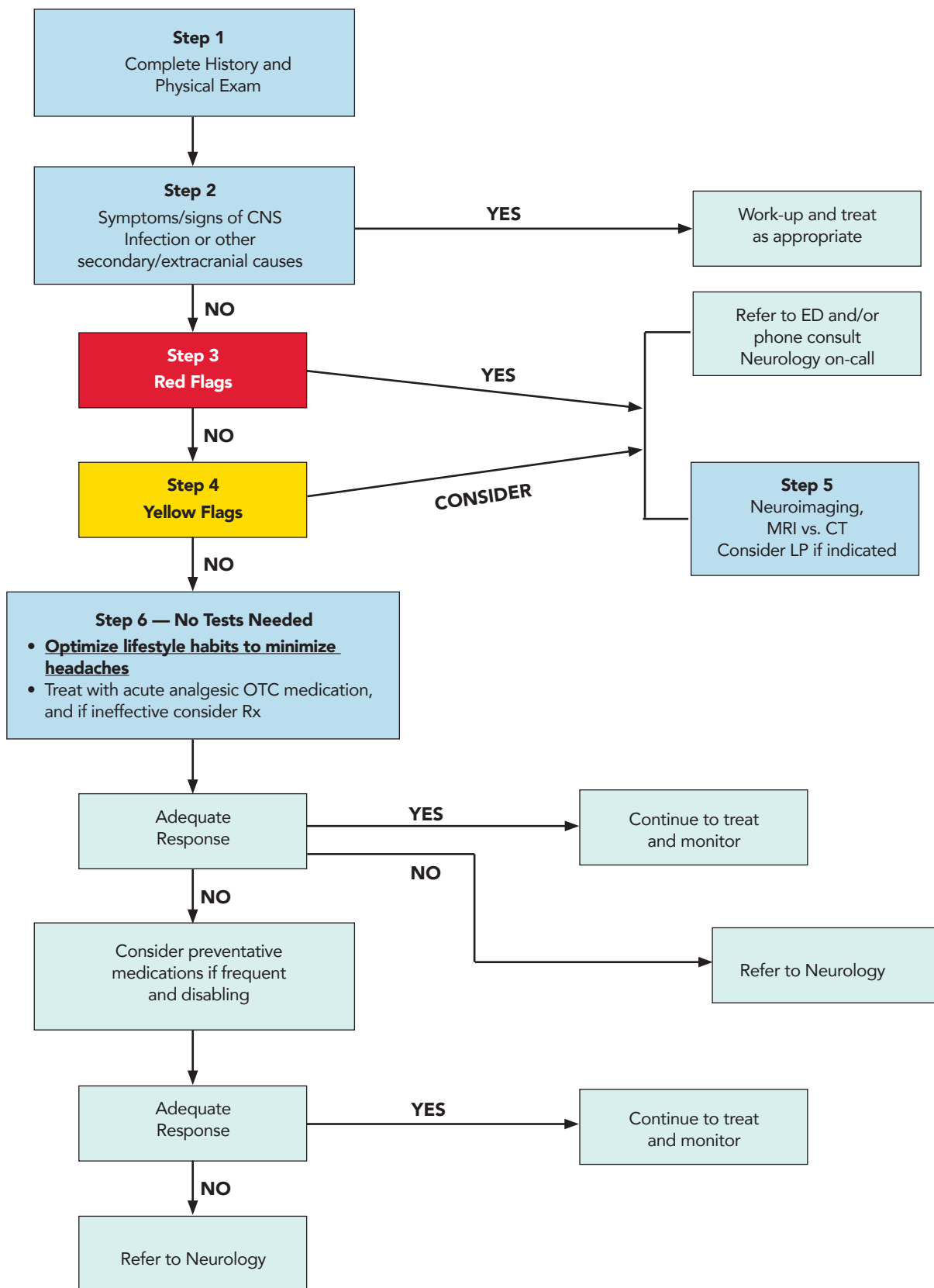
When to Consider Referral to Neurology for Pediatric Headache:

- 1) Urgent - Red flags present.
- 2) Abnormal MRI or exam findings.
- 3) Ineffective control despite optimal lifestyle habits and adequate trials of OTC acute analgesic & Rx migraine treatments.
- 4) Ineffective control despite optimal lifestyle habits and adequate trials of preventative treatment.
- 5) Ineffective control despite optimal lifestyle habits and PCP not comfortable with Rx of triptan or preventative treatments.
- 6) Patient/family preference.

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HEADACHE ALGORITHM



INITIAL EVALUATION OF A PEDIATRIC PATIENT WITH A HEME-POSITIVE URINE DIPSTICK

Purpose:

Heme-positive dipstick is often found incidentally during office evaluation of pediatric patients. Urinalysis was once part of American Academy of Pediatrics (AAP's) recommended routine screening, but was removed from the recommendations in 2007 in light of the lack of clear benefit relative to its associated costs and risks. This algorithm outlines the approach to a pediatric patient with a heme-positive dipstick recommended by the Pediatric Nephrologists and Urologists of Kapi'olani Medical Specialists.

Definitions:

- 1) *Hematuria* is the abnormal presence of red blood cells (RBCs) in the urine.
- 2) *Gross hematuria* is blood in the urine that can be seen by the naked eye. Gross hematuria can result from as little as 1 mL of blood in 1 L of urine.
- 3) *Microscopic hematuria* is blood in the urine that can only be detected by use of a microscope or a clinical test such as a urine dipstick. However, a urine dipstick alone is not sufficient to diagnose hematuria. Although many different cutoffs have been suggested in the literature, we define microscopic hematuria as > 5 RBCs/high-power field on microscopic examination of a centrifuged fresh urine specimen.
- 4) *Heme-positive dipstick* is a positive test for blood on a urine-testing reagent strip such as Multistix. This testing method detects the biochemical structure known as a heme group, and reacts to intact RBCs, free hemoglobin, and myoglobin.

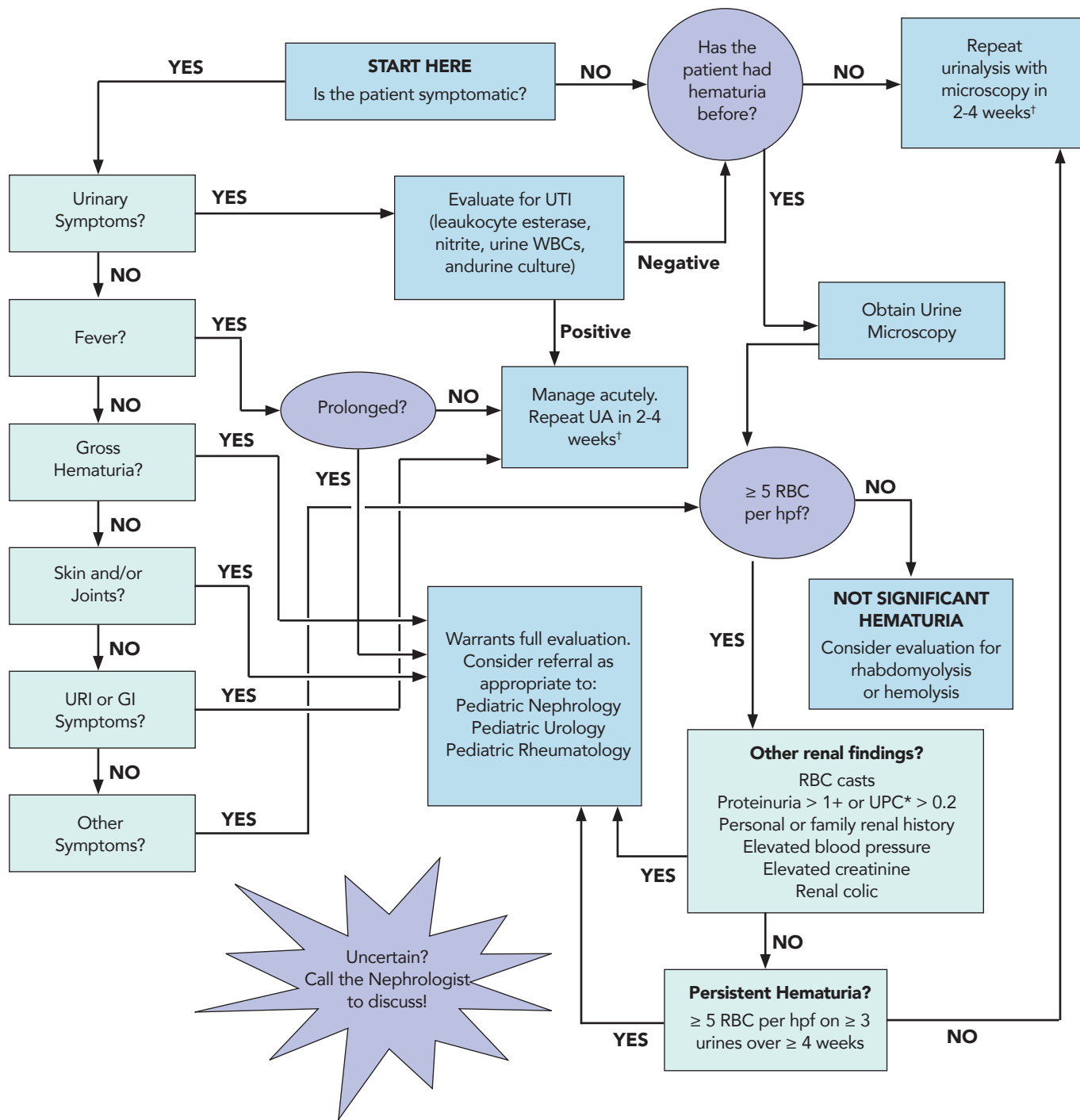
General Considerations for the Pediatric Patient with Heme-Positive Dipstick:

- 1) The urine dipstick detects heme with a sensitivity close to 100% and specificity of 99.3%.
- 2) The dipstick detects free hemoglobin and myoglobin as well as intact RBCs.
- 3) Free hemoglobin ("hemolyzed blood") may result from intravascular hemolysis or from lysis of intact blood if the urine sample sits long enough prior to testing.
- 4) Myoglobin may result from rhabdomyolysis.
- 5) Intact RBCs may come from the kidneys/urinary tract but also from non-urinary sources of blood (menses, perineal lesion).
- 6) False-positive results can be seen due to highly alkaline urine (pH \geq 9.0) and improper storage or use of the test strips.
- 7) Heme-positive dipstick alone is not sufficient for a diagnosis of hematuria.
 - a. Result must be confirmed by microscopic evidence of increased RBCs.
- 8) Transient hematuria and heme-positive dipstick are common in children.
 - a. 4% of healthy school-age children tested positive in at least 1 out of 4 serial urine specimens.
 - b. Of these subjects, 6% tested positive in 4/4 serial samples.
 - c. Current recommended practice is to test at least 3 specimens on separate occasions. Confirmation by repeat testing takes into account the intermittent nature of hematuria found in some conditions, and aids in distinguishing persistent from transient hematuria.

Key Questions on Patient History:

- 1) HPI/ROS: Pain, trauma, joints, skin/rashes, weight loss, fever, hearing loss, edema, urinary symptoms, unusual bleeding or bruising, medications, last menstrual period.
- 2) Family history: kidney disease (chronic kidney disease, dialysis, kidney transplant, polycystic kidney disease), hearing loss (esp. in children/young adults), kidney stones, bleeding diathesis.
- 3) Other considerations: reason the test was done, level of parental/caregiver anxiety.

INITIAL EVALUATION FOR HEME-POSITIVE URINE DIPSTICK ALGORITHM



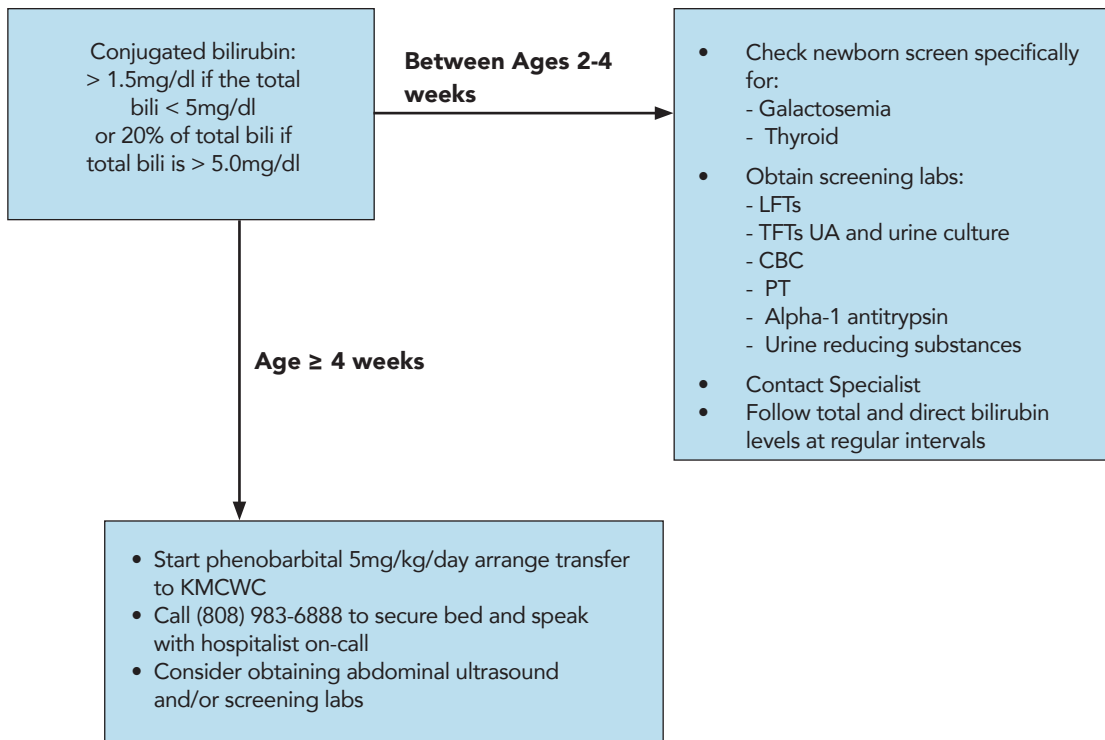
(Following judicious use of the test, which is not recommended for routine screening in most pediatric patients^{†‡})

* UPC = spot/random urine protein-creatinine ratio

† Consider menstrual cycle in planning follow up for peripubertal and adolescent female patients

‡ See: Kaplan et al. (1997). Screening dipstick urinalysis: a time to change. *Pediatrics* 100(6):919; Sekhar et al. (2010) A cost-effectiveness analysis of screening urine dipsticks in well-child. *Pediatrics* 125(4):660; and the AAP Publications *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*, 3rd Edition; and *Recommendations for Preventive Pediatric Health Care - Periodicity Schedule*.

NEONATAL DIRECT HYPERBILIRUBIN WORKUP ALGORITHM



PEDIATRIC BEHAVIORAL HEALTH: EVALUATION AND INITIAL MANAGEMENT OF ADHD

Purpose:

Attention-deficit/hyperactivity disorder (ADHD) is the most common neurobehavioral disorder of childhood and can profoundly affect the academic achievement, well-being, and social interactions of children. The American Academy of Pediatrics (AAP's) first published clinical recommendations for the diagnosis and evaluation of ADHD in 2000.

Summary of AAP Clinical Recommendations:

The PCP should evaluate for ADHD in any child 4-18 years old who presents with academic or behavioral problems and symptoms of inattention, hyperactivity, or impulsivity.

- 1) To make a diagnosis
 - a. Determine that DSM-IV criteria have been met, including impairment in more than one major setting.
 - b. Information should be obtained from reports from parents/guardians, teachers, and other school and mental health clinicians involved in child's care.
 - c. Other alternative causes of symptoms have been ruled out.
- 2) Include assessment for other conditions that might co-exist with ADHD
 - a. Emotional or behavioral disorders: anxiety, ODD, depression, conduct disorder.
 - b. Developmental disorders: learning and language disorders, neurodevelopmental disorders.
 - c. Physical conditions: tics, sleep apnea.
- 3) Recognize ADHD as a chronic condition and therefore consider children and adolescents with ADHD as children and youth with special health care needs. Thus, management should follow the principles of the chronic care model and the medical home.
- 4) Recommendations for treatment vary depending on the patient's age
 - a. *Preschool aged children (4-5 years of age):* prescribe evidence based behavioral therapy as the first line of treatment and may prescribe Methylphenidate if the behavior interventions do not provide significant improvement and there is moderate-to-severe continuing disturbance in the child's function. In areas where evidence-based behavioral treatments are not available, the clinician needs to weigh the risks of starting medication at an early age against the harm of delaying diagnosis and treatment.
 - b. *Elementary school-aged children (6-11 years of age):* prescribe US FDA approved medication and/or evidence-based parent and/or teacher-administered behavior therapy as treatment. The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine, extended release guanfacine, and extended release clonidine. The school environment, program, or placement is part of any treatment plan.
 - c. *Adolescents (12-18 years of age):* prescribe US FDA approved medication with the assent of the adolescent and may prescribe behavior therapy as treatment.
- 5) The PCP should titrate doses to medication to achieve maximum benefit with minimum adverse effects.

Initial Medication Management:

- 1) Negotiate goals with parents and patient.

Example

- a. Increased work completion, decreased need for correction of behavior at school, decreased negative interactions with other children.
- b. Start with lowest dose of short acting medication Methylphenidate 5 mg (Ritalin equivalent) or mixed salts of amphetamine 5 mg (Adderall equivalent) BID (morning and lunchtime) and adjust as needed for symptom control.
- c. Evaluate with Vanderbilt questionnaire once before starting and at 1 month after medication.

MANAGEMENT OF ADHD continued

- d. Recheck patient in office in 1 month after starting medication and assess:
 - i. School function – getting work done, behavioral problems, last report card satisfactory
 - ii. Adherence to medications – missed doses, taking medication as prescribed
 - iii. Side effects – sleep, appetite, headaches, stomach pain, tics, weight loss
 - iv. Monitor for appropriate weight gain and normal blood pressure
 - e. Continue to recheck patient every month until symptoms are controlled and there is evidence of weight gain or stabilization (if initial weight loss noted).
 - f. Consider changing medication if:
 - i. Significant side effects
 - ii. No symptom relief despite maximum dose of medication
 - iii. Weight loss x 2 months on medication or 4 months without weight gain
 - g. When weight is stable and if no sleep problems; consider switching to long-acting medication:
 - i. Methylphenidate CR (Concerta semi equivalents, Concerta and the McNeil generic are more expensive and no longer on most insurance formularies) tends to last about 10-12 hours.
 - ii. Methylphenidate LA or ER tend to last about 8-10 hours.
 - iii. Mixed salts of amphetamine XR (Adderall XR equivalents) tend to last about 10 -12 hours.
 - h. Once patient is stable on medications – evaluate every 2-3 months.
 - i. Do not recommend medication holidays = continue medication 7 days a week to maximize symptom control and minimize side effects associated with medication breaks.
- 2) Select Medication:
- a. First line medication: *Ritalin SA* (short-acting) 5mg or 10mg
 - i. Start with Ritalin SA Q4H x 2 doses (breakfast and lunch dosing).
 - ii. Good medication to start with due to short duration – will see results quickly and will wear off in 4-6 hours if there are side effects to medications.
 - b. *Adderall*
 - i. Consider switching to this medication if symptoms not controlled on Ritalin.
 - ii. Dosing to start at ½ of last Ritalin dose used.
 - c. *Strattera*
 - i. Consider use of this long acting medications if there are still side effects on Adderall.

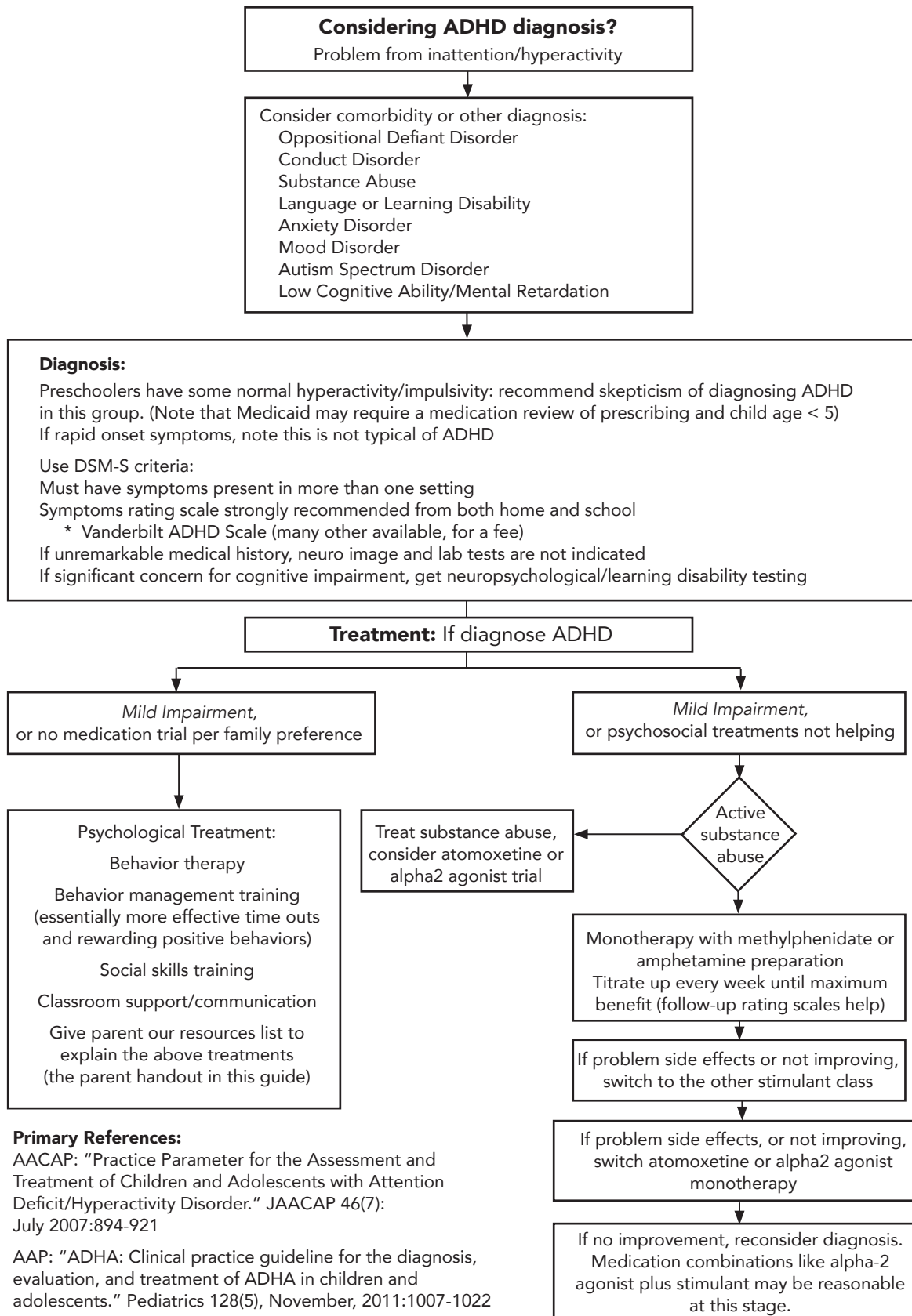
Consider Referral To:

- 1) Psychiatry or Developmental Pediatrician if there are any of the following:
 - a. Concerns about new development of anxiety or pre-existing anxiety worsens with treatment
 - b. There is failed monotherapy or a need for polypharmacy
 - c. Patient has maxed out on current medications (54 mg of Concerta, 30mg of Adderall XR)
 - d. There are other co-morbidities complicating diagnosis or treatment = ex. Autism, Eating Disorders
- 2) Cognitive Behavioral Therapist if there is significant Oppositional or Conduct Disorder behaviors.

Screening Tools:

Vanderbilt scales (parent fills out the parent version and teachers fill out the teacher version) found at nichq.org/childrens-health/adhd/resources/vanderbilt-assessment-scales

PEDIATRIC BEHAVIORAL HEALTH: ADHD ALGORITHM



MANAGEMENT OF ADHD continued

ADHD Stimulant Medications

Short Acting Stimulants

| Drug Name | Duration | Dosages | Stimulant Class | Usual Starting Dose | FDA Max Daily Dose | Cost of 1 month supply: Generic (Brand) |
|---|------------|--------------------------------|-----------------|-------------------------------|--------------------|---|
| Methylphenidate (Ritalin, Methylin) | 4-5 hours | 5, 10, 20mg | Methyl. | 5mg BID 1/2 dose if 3-5yr | 60mg | \$14-30 |
| Dexmethylphenidate (Focalin) | 4-56 hours | 2.5, 5, 10mg | Methyl. | 2.5mg BID | 20mg | \$14-40 |
| Dextroamphetamine (Dexedrine, Dextro-Stat, Dexedrine SA, Pro Centra, Zenzedi) | 4-6 hours | 5, 10mg tabs | Dextro. | 5mf QD-BID 1/2 dose if 3-5yr | 40mg | \$30-50 |
| Amphetamine Salt Combo (Adderall) | 4-5 hours | 5, 7.5, 10, 12.5, 15, 20, 30mg | Dextro. | 5mf QD-BID 1/2 dose if 3-5 yr | 40mg | \$20-30 |

Extended Release Stimulants

| Drug Name | Duration | Dosages | Stimulant Class | Usual Starting Dose | FDA Max Daily Dose | Editorial Comments | Cost of 1 month supply: Generic (Brand) |
|---|-------------------------------------|-----------------------------------|-----------------|---------------------|--------------------|--|---|
| Methylphenidate SR Metadate Er | 4-8 hours | 10, 20mg tab | Methyl. | 10mg QAM | 60mg | Generic available. Uses wax matrix. Variable duration of action | \$30-77 |
| Concerta | 10-12 hours | 18, 27, 36, 54mg | Methyl. | 18mg QAM | 72mg | Generic available. Osmotic pump capsule | \$100-270 |
| Adderall XR | 8-12 hours | 5, 10, 15, 20, 25, 30mg | Dextro. | 5mg QD | 30mg | Generic available. Beads in capsule can be sprinkled | \$68-160 |
| Metadate CD (30% IR) -8 hours | -8 hours | 10, 20, 30, 40, 50, 60mg capsules | Methyl. | 10mg QAM | 60mg | Generic available. Beads in capsule can be sprinkled | ~\$63-220 |
| Ritalin LA (505 IR) -8 hours | -8 hours | 10, 20, 30, 40mg capsules | Methyl. | 10mg QAM | 60mg | Generic available. Beads in capsule can be sprinkled | \$65-150 |
| Focalin XR | 10-12 hours | 5 to 40mg in 5mg steps | Methyl. | 5mg QAM | 30mg | Beads in capsule can be sprinkled | \$84-212 |
| Daytrana patch | Until 3-5 hours after patch removal | 10, 15, 20, 30mg Max 30mg/9hr | Methyl. | 10mgQAM | 30mg | Rash can be a problem, slow AM startup, has an allergy risk, peeling off a patch problem with young kids | \$320-330 |
| Lisdexamfetamine (Vyvanse) | -10 hours | 20, 30, 40, 50, 60, 70mg | Dextro. | 30mg QD | 70mg | Conversation ration from Dextroamphetamine is not established | \$285-300 |
| Dexedrine Spansule Dextroamphetamine ER | 8-10 hours | 5, 10, 15mg | Dextro. | 5g QAM | 50mg | Beads in capsule can be sprinkled | ~\$50-150 |
| Quilivant XR | 10-12 hours | 25mg/5ml 1 bottle=300mg or 60ml | Methyl. | 10mg QAM | 60mg | Liquid banana flavor | \$275-290 |
| Quillichew ER | 6-8 hours | 20, 30 40mg | Methyl. | 20mg QAM | 60mg | Chewable cherry-flavored tablets | \$320-340 |

MANAGEMENT OF ADHD continued

ADHD Non-Stimulant Medications

| Drug Name | Duration | Dosages | Usual Starting Dose | FDA Max Daily Dose | Editorial Comments | Cost of 1 mo. supply: Generic (Brand) |
|-------------------------|------------------|-------------------------------|---|--|---|---------------------------------------|
| Atomoxetine (Strattera) | All day | 10, 18, 25, 40, 60, 80, 100mg | 0.5mg/kg/day (1 to 1.2mg/kg/d Usual full dosages) | Lesser of 1.4mg/kg/day or 100mg (HCA limit is 120mg/day) | Usually lower effectiveness has GI side effects, takes weeks to see full benefit | \$100-170 |
| Clonidine (Catapres) | 12 hour 1/2 life | 0.1 0.2, 0.3mg | 0.05mg QHS if <45kg, otherwise 0.1mg QHS Caution if <5yr. | (Not per FDA) 27-40kg 0.2mg 40-45kg 0.3mg >45kg 0.4mg | Often given to help sleep, also treats tics, can have rebound BP effects | \$4-10 |
| Clonidine XR (Kapvay) | 12-16 hours | 0.1, 0.2mg | 0.1mg QHS | 0.4mg daily | Lower peak blood level, then acts like regular clonidine (similar 1/2 life). Still sedating. Approved for combo with stimulants | \$42-100 |
| Guanfacine (Tenex) | 14 hour 1/2 life | 1, 2mg | 0.5mg QHS if <45kg, otherwise 1mg QHS Caution if <5yr. | (Not per FDA) 27-40kg 2mg 40-45kg 3mg >45kg 4mg | Often given to help sleep, also treats tics, can have rebound BP effects | \$4-20 |
| Guanfacine XR (Intuniv) | 16 hour 1/2 life | 1, 2, 3, 4mg | 1mg QD if over 6 yrs old (full dosage 0.05 to 0.12mg/kg) | 4mg daily | Lower peak blood level, then acts like regular Tenex (similar 1/2 life) Still is sedating. Approved for combo with stimulants | \$28-70 |

Reference: AACAP ADHD Practice Parameter (2007), Micromedex 2013
Hilt, R. Seattle Children's Hospital Partnership Access Line Washington Care Guide 2017, pg.35

Relative Effect Size of ADHD Medication Choices:

Effect size of all stimulants -1.0

Effect size of atomoxetine -.07

Effect size of guanfacine -0.65 (using Cohen's d-statistic)

Stimulant Relative Potencies:

Methylphenidate 10mg ~ dexamethylphenidate 5mg

Methylphenidate 10mg ~ dexamethylphenetamine 5mg

Therapy to Consider:

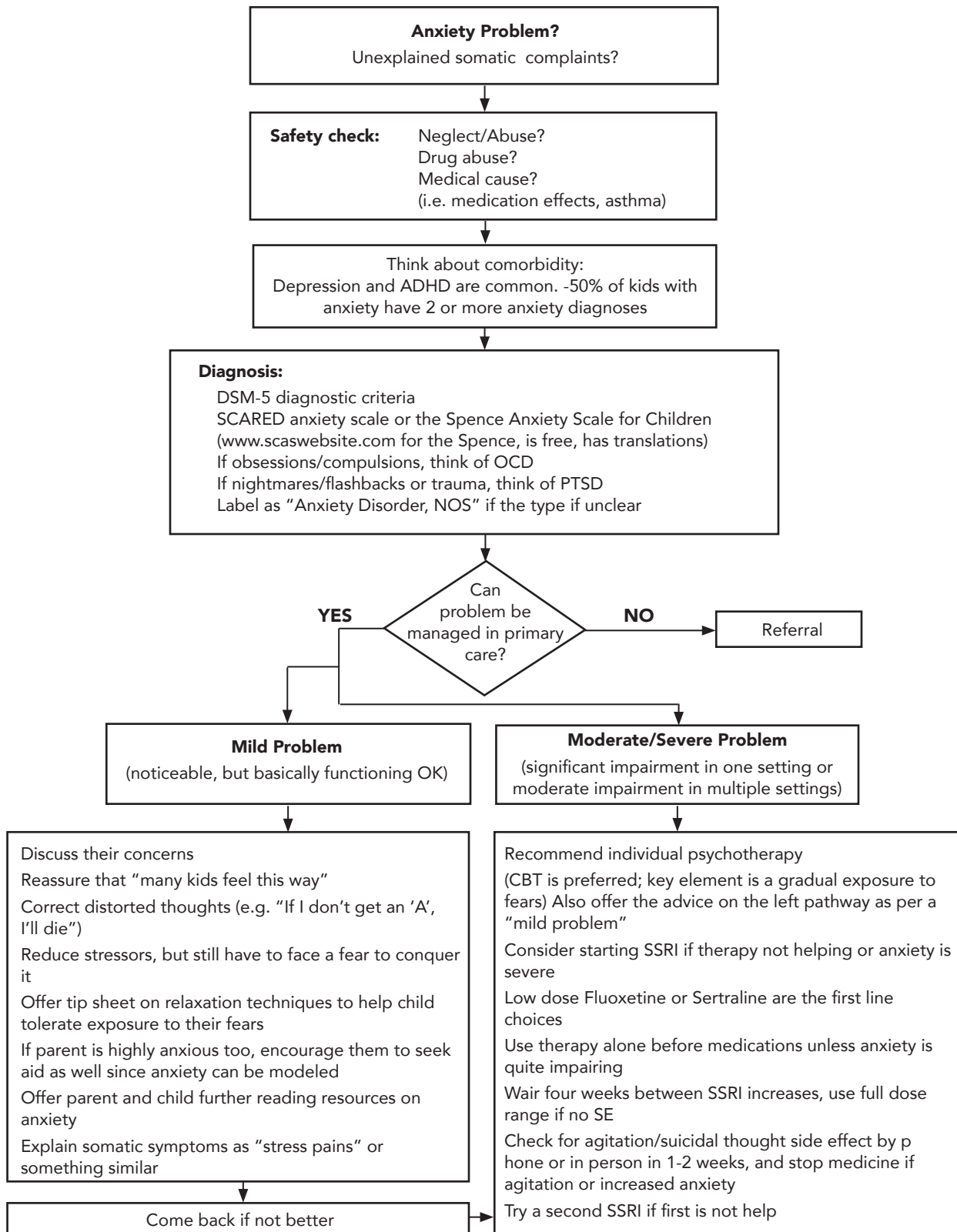
Behavior Management Training or Behavior Therapies. Generally lasts 10-20 sessions with a qualified therapist. These treatments while helpful can be less effective than medications, though when used together may help with some difficulties more than just medications alone. Key points of this therapy includes reviewing information about ADHD, learning to attend to both misbehavior and when child complies, establishing a token economy, using timeouts effectively, managing noncompliant behavior in public settings, using a daily school report card, anticipating future misconduct.

ADHD Resources for Families and Schools

Helpful Websites for Families and Schools:

- 1) Parents Med Guide: parentsmedguide.org (information about medications for ADHD)
- 2) Children and Adults with ADHD: chadd.org (support groups, information resources)
- 3) Teach ADHD: teachadhd.com (teaching advice for ADHD kids)
- 4) Hawaii Resource: The ADHD Center of Hawai'i (ldcenterofhawaii.com)

PEDIATRIC BEHAVIORAL HEALTH: ANXIETY ALGORITHM



Hill, R. Seattle Children's Hospital Partnership Access Line Washington Care Guide 2017, pg. 38.

PEDIATRIC BEHAVIORAL HEALTH: EVALUATION AND MANAGEMENT OF ANXIETY DISORDER

Screening Tools:

SCARED (two forms to be completed, one by the parent and one by the child), midss.org/content/screen-child-anxiety-related-disorders-scared.

Anxiety Medications

Starting at a very low dose of SSRI for the first week or two with anxiety disorders is especially essential to reduce the child's experience of side effects (augmented by associated somatic anxieties).

| Name | Dosage Form | Usual starting dose for adolescents | Increase Increment (after 4 weeks) | RCT anxiety treatment benefit in kids | FDA anxiety approved for children? | Editorial Comments | Cost of 1 mo. supply: Generic (Brand) |
|---|---|-------------------------------------|------------------------------------|---------------------------------------|------------------------------------|--|---------------------------------------|
| Fluoxetine (Prozac) | 10, 20, 40mg 20mg/5ml | 5-10 mg/day (60mg max)* | 10-20mg** | Yes | Yes(for OCD >6yr) | Long 1/2 life, noSE from a missed dose | \$4-5 |
| Sertraline (Zoloft) | 25, 50, 100mg 20mg/ml | 25mg/day (200mg max)* | 25-50mg** | Yes | Yes (For OCD >6yr) | May be prone to SE from weaning off | \$7-15 |
| <i>Sertraline and Fluoxetine are both first line medications for child anxiety disorders, per the evidence base</i> | | | | | | | |
| Fluvoxamine (Luvox) | 25, 50 100mg | 25mg/day (300mgmax)* | 50mg** | Yes | Yes (For OCD >8yr) | Often more side effect than other SSRI's, has many drug interactions | \$10-30 |
| Paroxetine (Paxil) | 10, 20, 30 and 40mg 10mg/5ml 12.5, 25, 37.5 mg CR forms | 5-10mg/day (60mg max)* | 10-20mg** | Yes | No | Not preferred if child also has depression. Can have short 1/2 life | \$9-10 |
| Citalopram (Celexa) | 10, 20, 40mg 10mg/5ml | 5-10mg/day (40mg max)* | 10-20mg** | Yes | No | Very few drug interactions | \$4-8 |
| Escitalopram (Lexapro) | 5, 10, 20mg 5mg/5ml | 2.5-5mg/day (20mg max)* | 5-10mg** | No | No | Active isomer of citalopram | \$10-22 |

*Recommended decrease maximum dosage by at least 1/3 for pre-pubertal children.

**Recommend using the lower dose increase increments for younger children.

Successful medication trials should continue for 6-12 months.

Resource: Hilt, R. Seattle Children's Hospital Partnership Access Line Washington Care Guide 2017, pg. 47

ANXIETY DISORDER continued



Resources

Helpful Websites:

- 1) American Academy of Child & Adolescent Psychiatry
 - a. aacap.org/aacap/Families_and_Youth/Resource_Centers/Anxiety_Disorder_Resource_Center/Home.aspx
- 2) Anxiety Disorders Association of America
 - a. adaa.org
- 3) Child Anxiety Network
 - a. childanxiety.net
- 4) Children's Center for OCD and Anxiety
 - a. worrywisekids.org
- 5) National Institute of Mental Health
 - a. nimh.nih.gov/health/topics/anxiety-disorders/index.shtml

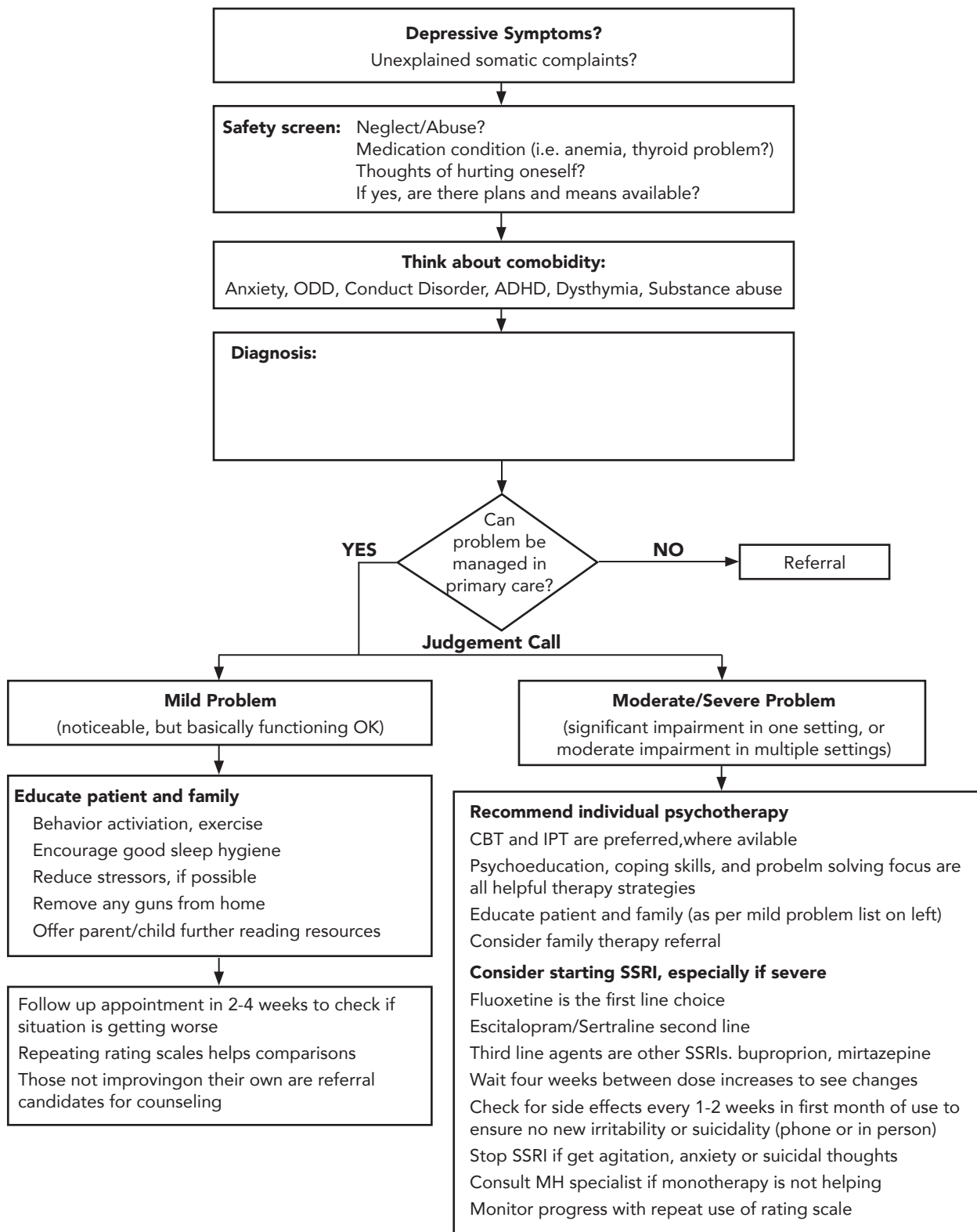
Technology Based Resources:

- 1) Example apps include "Virtual Hope Box" app, Headspace for Kids (does require subscription after trial but aimed towards kids)
- 2) Search for additional apps with keywords: "Meditation" "Mindfulness"
- 3) Search for YouTube videos with keywords: "Progressive Muscle Relaxation" "Deep Breathing" "nature sounds"

Special Considerations: Suspecting PTSD

- 1) Assess for safety and ensure child is safe.
- 2) Ask for details from the child, or consider asking the details of the caregiver.
- 3) Look for symptoms such as
 - a. Intrusive thoughts
 - b. Nightmares
 - c. Avoidance of reminders
 - d. Mood or cognition changes
 - e. Hypervigilance/hyperarousal
- 4) There is no compelling evidence for medications to address PTSD in children; first line is Trauma-focused cognitive behavioral therapy (TF-CBT); though clonidine and prazosin can be helpful off-label use for nightmares
- 5) After the Injury (aftertheinjury.org)

PEDIATRIC BEHAVIORAL HEALTH: DEPRESSION ALGORITHM



Hilt, R. Seattle Children's Hospital Partnership Access Line Washington Care Guide 2017, pg. 63

PEDIATRIC BEHAVIORAL HEALTH: EVALUATION AND MANAGEMENT OF DEPRESSION

Screening Tools:

- 1) CES-DC (Center for Epidemiological Studies Depression Scale for Children) found at brightfutures.org/mentalhealth/pdf/professionals/bridges/ces_dc.pdf
PHQ-9 (Patient Health Questionnaire) found at phqscreeners.com/sites/g/files/g10016261/f/201412/PHQ-9_English.pdf

Depression Medications

| Name | Dosage Form | Usual starting dose for adolescents | Increase increment (after 4 weeks) | RCT evidence in kids | PFA depression approved for children? | Editorial Comments | Cost of 1 month supply: Generic (Brand) |
|--|---|---|------------------------------------|---|---------------------------------------|---|---|
| Fluoxetine (Prozac) | 10, 20, 40mg 20mg/5ml | 10mg/day (60mg max)* | 10-20mg** | Yes | Yes (over age 8) | Long 1/2 life, no SE from a missed dose | \$4-5 |
| <i>Fluoxetine considered first line due to stronger evidence base in children</i> | | | | | | | |
| Sertraline (Zoloft) | 25, 50, 100mg (20mg/ml) | 25mg/day (20mg max)* | 25-50mg** | Yes | No | May be prone to side effects when stopping | \$7-15 |
| Escitalopram (Lexapro) | 5, 10, 20mg 5mg/5ml | 5mg/day (20mg max)* | 5-10mg** | Yes | Yes (for adolescents) | The active isomer of citalopram | \$10-22 |
| <i>Escitalopram and Sertaline considered second line per the evidence base in children</i> | | | | | | | |
| Citalopram (Celexa) | 10, 20, 40mg 10mg/5ml | 10mg/day (40mg max)* | 10-20mg** | Yes | No | Very few drug interactions | \$4-8 |
| Bupropion (Wellbutrin) | 75, 200mg 100, 150, 200mg SR forms 150, 300mg XL forms | 75mg/day (later dose this BD) 400mg max)* | 75-100mg** | No | No | Can have more agitation risk. Avoid if eat d/o. Also has use for ADHD treatment | \$20-25 |
| Mirtazapine (Remeron) | 15, 30, 45mg | 15mg/day (45mg max)* | 15mg** | No | No | Sedating increases appetite | \$11-30 |
| Venlafaxine (Effexor) | 25, 37.5, 50, 75, 100mg 37.5, 75, 150mg ER forms | 37.5mg/day (225mg max)* | 37.5-75mg** | No (May have higher SI risk than others for children) | No | Only recommended for elder adolescents. Withdrawal symptoms can be severe | \$13-30 |
| <i>Others above considered third line treatments per the evidence base in children</i> | | | | | | | |

Hilt, R. Seattle Children's Hospital Partnership Access Line Washington Care Guide 2017, pg. 69

Therapy to Consider:

Many therapy options including cognitive behavioral therapy (CBT), interpersonal therapy (IPT), psychodynamic/play therapy, supportive therapy.

MANAGEMENT OF DEPRESSION continued

Resources

- 1) Parents Med Guide: parentsmedguide.org (information about depression medication)
- 2) National institute of Mental Health: nimh.nih.gov/health/topics/depression/index.shtml (general depression information)
- 3) American Academy of Child and Adolescent Psychiatry: aacap.org/AACAP/Families_and_Youth/Resource_Centers/Depression_Resource_Center/Home.aspx (Facts and resources about depression)
- 4) Teen Self-Help Cognitive Behavior Therapy (CBT) guidance: dartmouthcoopproject.org/teen-mental-health-2

ADULT / PEDIATRIC

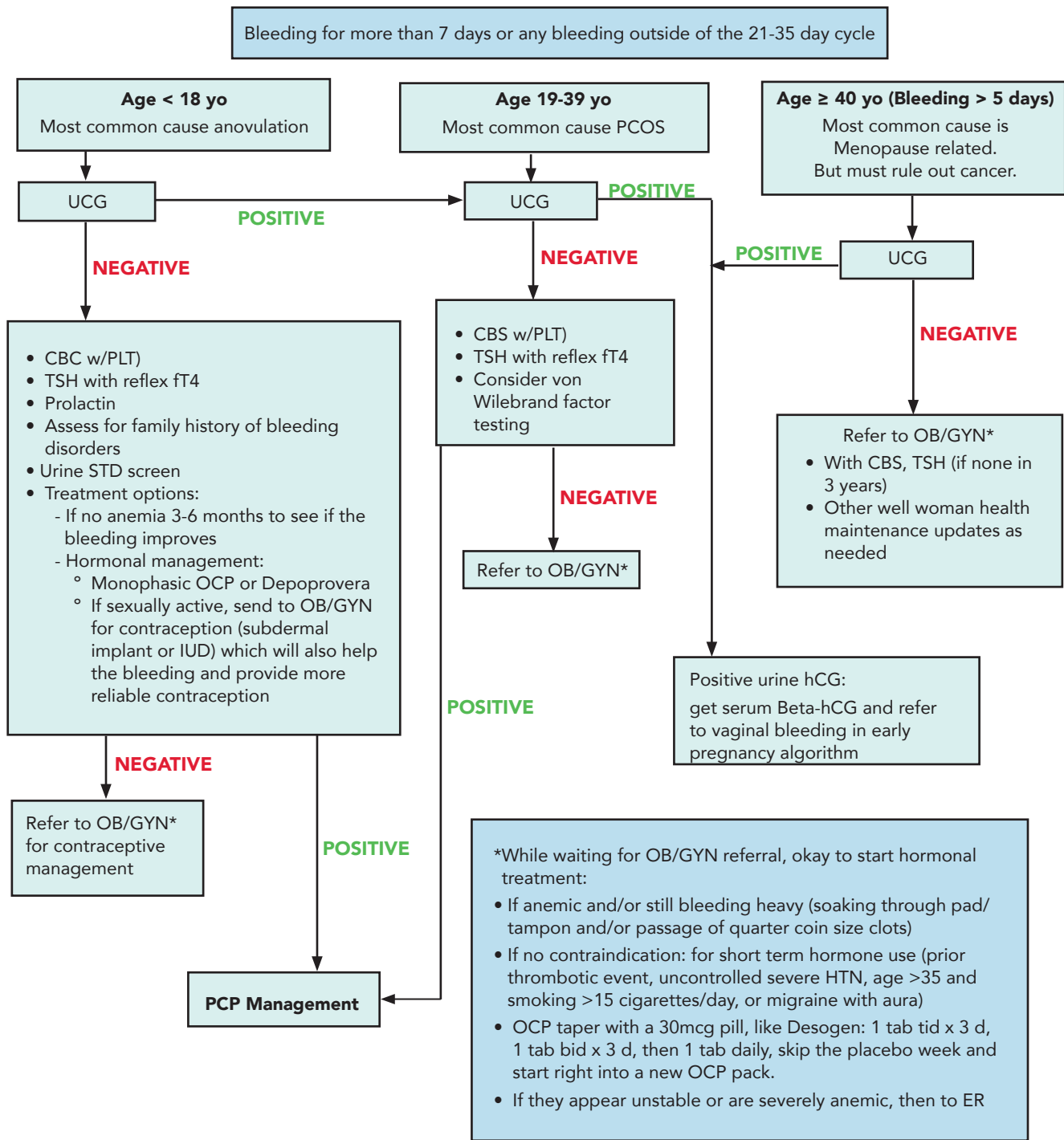
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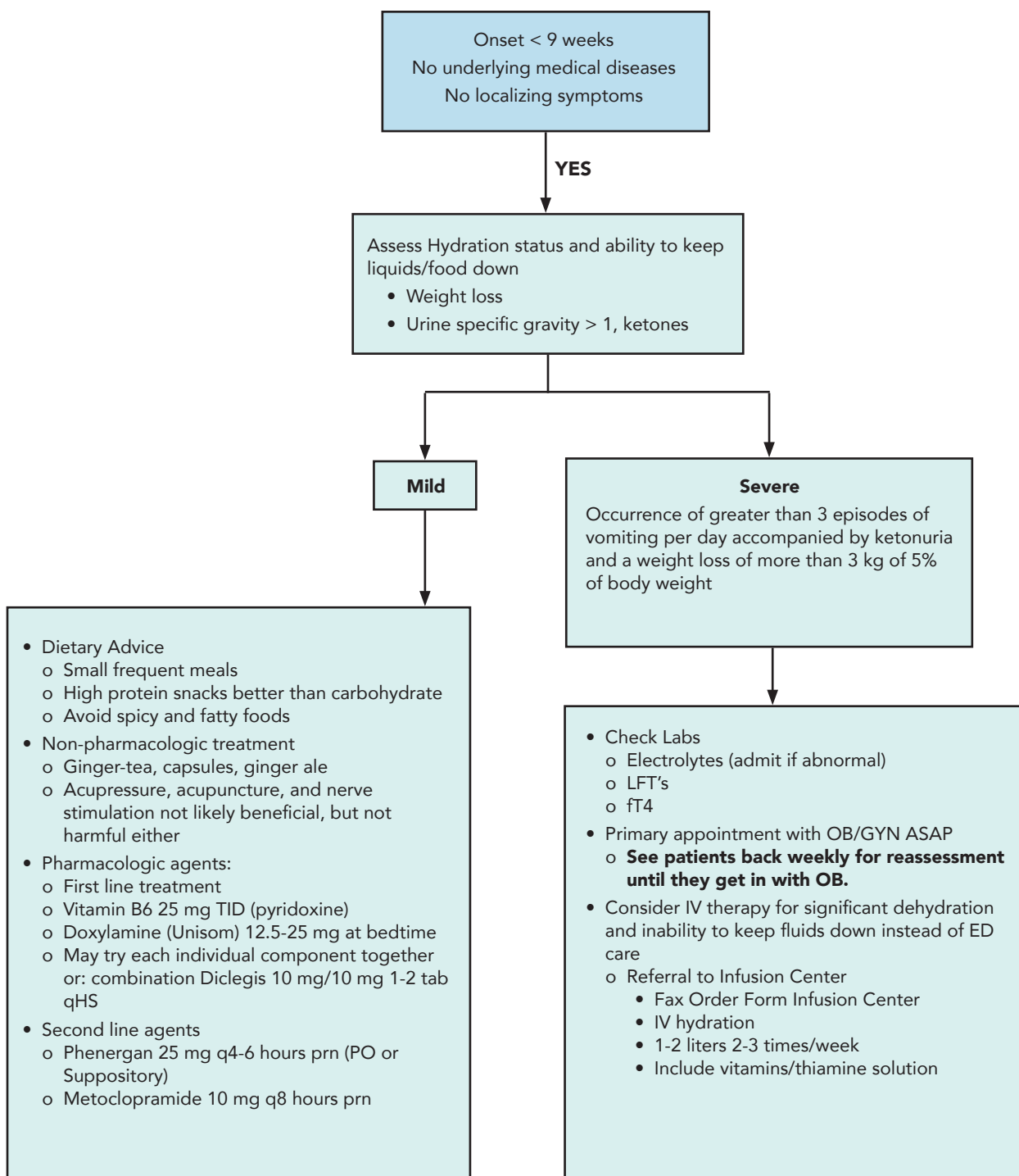
WOMEN

APPENDIX

INITIAL MANAGEMENT OF ABNORMAL UTERINE BLEEDING ALGORITHM



NAUSEA AND VOMITING OF EARLY PREGNANCY ALGORITHM



UTI IN EARLY PREGNANCY

UTIs have the same symptoms, signs and organisms during pregnancy.

Diagnosis:

Urine culture, even if UA not suggestive (do not order as reflex to culture)

Treatment:

- 1) Okay to start empiric treatment on any pregnant woman with dysuria, with or without a suggestive UA.
 - a. First trimester (< 14 weeks gestation) treatment options
 - b. UTI in later pregnancy would be treated the same. Second line agents okay to use after first trimester.

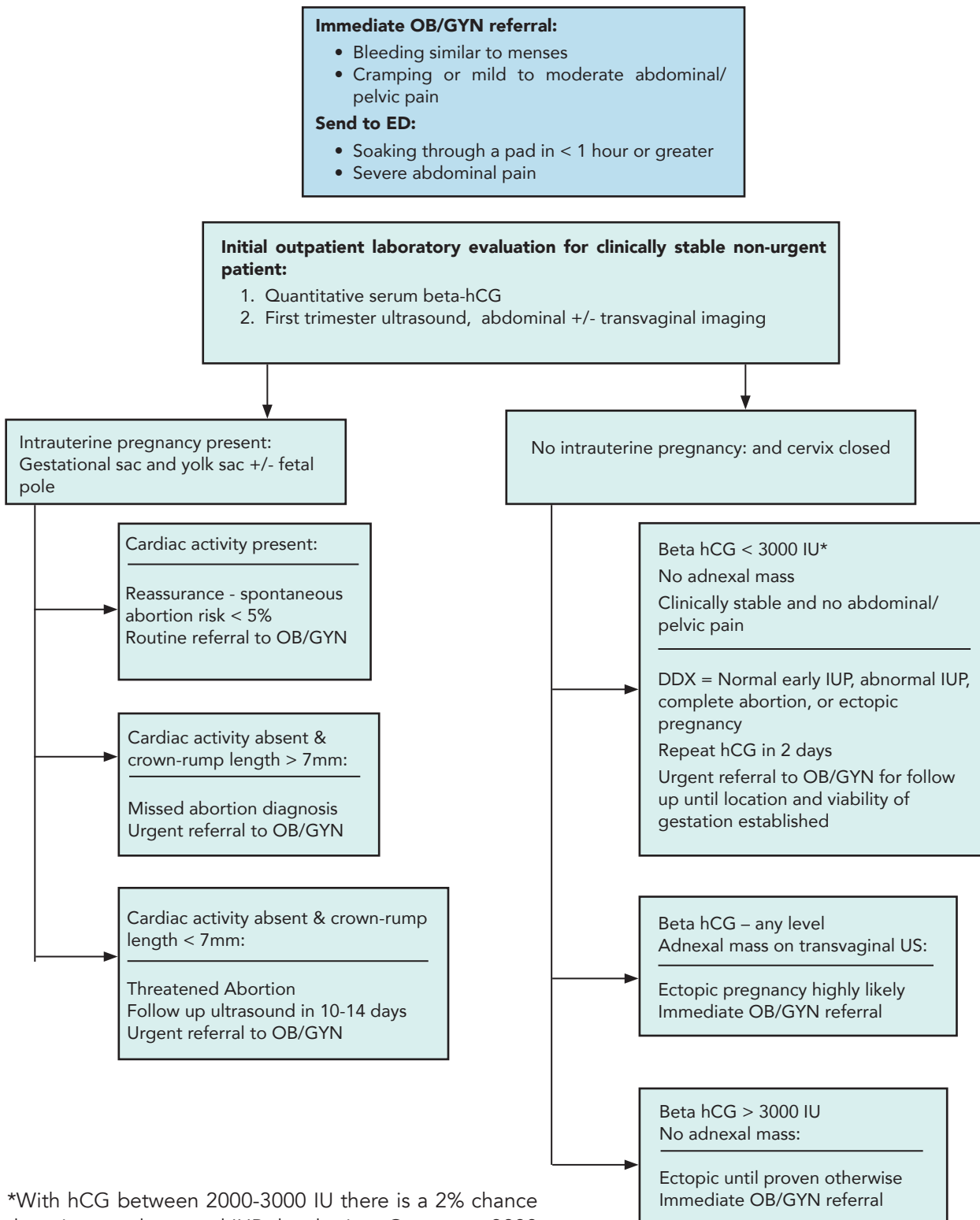
| FIRST LINE AGENTS | | |
|--|---------------|----------|
| Amoxicillin | 500mg Q 8h | x 7 days |
| Amox-clavulanate | 500mg Q 8h OR | |
| 875mg Q 12h | x 7 days | |
| Cephalexin | 500mg Q 6h | x 7 days |
| Cefpodoxime | 100mg Q 12h | x 7 days |
| Fosfomycin | 3g PO x 1 | |
| Second Line Agents (Allergy to above or Bacterial Resistance) | | |
| Bactrim DS | 1 tab BID | x 3 days |
| Nitrofurantoin | 100 mg BID | x 7 days |

- 2) If Group B streptococcus (GBS) is found in culture, inform OB for treatment at delivery.

| Pyelonephritis in Pregnancy |
|--|
| <ul style="list-style-type: none"> • Prophylaxis treatment until delivery with nitrofurantoin • Repeat urine culture after 1-2 weeks |

| Antibiotics to avoid in pregnancy |
|--|
| <ul style="list-style-type: none"> • Tetracycline • Doxycycline • Quinolones • Chloramphenicol |

VAGINAL BLEEDING IN EARLY PREGNANCY ALGORITHM



*With hCG between 2000-3000 IU there is a 2% chance there is an early normal IUP developing. Once over 3000 the chance is < 0.5%

VAGINITIS

healthier

Symptoms and etiology are not changed by pregnancy

Testing:

- 1) Vaginal swab from the posterior fornix and the vaginal wall
 - a. BD Affirm VPIII Ambient Temperature Collection System for DNA common vaginitis agents
 - i. **EPIC Order: "VAGINAL; AFFIRM MICRO ID" or "Vaginitis Rapid DNA" (Kaua'i)**
 - b. Gonorrhea/chlamydia DNA vaginal swab (or urine) testing if risk factors present
- 2) Microscopy (if available in office):
 - a. Saline and KOH wet mounts of vaginal swab, see below for diagnostic findings.
 - b. If Microscopy is diagnostic, no need for DNA test.

For treatment options see next page

VAGINITIS continued

healthier

Treatment:

| PARAMETER | VULOVAGINAL CANDIDIASIS | BACTERIAL VAGINOSIS | TRICHOMONIASIS |
|---|---|--|---|
| Symptoms | Pruritus, soreness, dyspareunia | Malodorous discharge, no dyspareunia | Malodorous discharge, burning, postcoital bleeding, dyspareunia, dysuria |
| Signs | Vulvar erythema and/or edema. Discharge may be white and clumpy and may or may not adhere to vagina. | Off-white/gray thin discharge that coats the vagina | Thin green-yellow discharge, vulvovaginal erythema |
| Vaginal pH | 4.0 to 4.5 | >4.5 | 5.0 to 6.0 |
| Affirm test on EPIC | Candida detected | Gardnerella detected •As Gardnerella is a normal vaginal bacteria, other findings should also be consistent before treating | Trichomonas detected |
| Microscopy (if available) - Saline mount PNM= white blood cells EC= epithelial cells | PMN:EC ratio <1; rods dominate; squames +++; pseudohyphae (present in about 40 percent of patients); budding yeast for nonalbicans Candida | PMN:EC <1; loss of rods; increased coccobacilli; clue cells comprise at least 20 percent of epithelial cells (present in >90 percent of patients) | PMN +++++; mixed flora; motile trichomonads (present in about 60 percent of patients) |
| Microscopy (if available) -10% KOH | Pseudohyphae (in about 70 percent of patients) | Negative | Negative |
| Treatment | Over the counter vaginal preparations • Clotrimazole 2% 3-Day • Miconazole 3 • Prescription • Fluconazole 150 mg oral once | • Metronidazole 0.75% vaginal gel (5 g daily, 5 days) • Metronidazole (500 mg PO twice daily, 7 days) | • Metronidazole 500 mg (4 tabs orally as one dose, 1 day) • Always treat partner even if asymptomatic or partner's test is negative • Have patient avoid sex until both are treated |
| | Note: You can empirically treat based on symptoms especially if the patient does not tolerate pelvic exam. | | |
| When to refer to OB/GYN | Recurrent infection or unresponsive to treatment. o Screen for DM or HIV • Consider referral to OB/GYN or infectious disease if complicated: • Recurrent (≥ 4 episodes in 1 year) • Severe symptoms or findings • Suspected or proven non-albicans infection • Women with diabetes, severe medical illness, immunosuppression, other vaginal conditions. | Recurrent infection or unresponsive to treatment (Reoccurrence: up to 30% within 3 months, more than three episodes in a 12 month period) • Treat with metronidazole 0.75 % or oral nitroimidazole for 7-10 days followed by twice weekly dosing of gel for 4-6 months. | |

ADULT / PEDIATRIC

ADULT

PEDIATRIC

WOMEN

APPENDIX

KEY POINTS OF CONTACT

For questions regarding specialty sections of the CM/RGs, please contact the following individuals.

Pediatric: Kenneth Nakamura, MD: (808) 369-1237; KennethN@Kapiolani.org

Pediatric Behavioral Health: Ryan Lunsford, MD: (808) 983-6100; Ryan.Lunsford@kapiolani.org

Adult: Bennett Loui, MD: (808) 522-4322; Bloui@straub.net

Adult Behavioral Health: Vijaya Vellanki, MD: (808) 522-4521; Vijaya.Vellanki@straub.net

Women: Dena Towner, MD: Dena.Towner@kapiolani.org

LIST OF CLINICAL ALGORITHMS

Adult / Pediatric

Stepwise Approach for Managing Asthma in Youths \geq 12 Years of Age and Adults, pg. 14

Adult

Treatment for Generalized Anxiety Disorder Algorithm, pg. 33

Major Depressive Disorder Algorithm, pg. 36

Mood Disorder and Bipolar Algorithm, pg. 39

Pediatric

Constipation Work-Up and Management Algorithm, pg. 46

Headache Algorithm, pg. 50

Initial Evaluation for Heme-Positive Urine Dipstick Algorithm, pg. 52

Neonatal Direct Hyper Bilirubin Workup Algorithm, pg. 53

Attention Deficit Hyperactivity Disorder (ADHD) Algorithm, pg. 56

Anxiety Algorithm, pg. 59

Depression Algorithm, pg. 62

Women

Initial Management of Abnormal Uterine Bleeding Algorithm, pg. 66

Nausea and Vomiting of Early Pregnancy Algorithm, pg. 67

Vaginal Bleeding in Early Pregnancy Algorithm, pg. 69

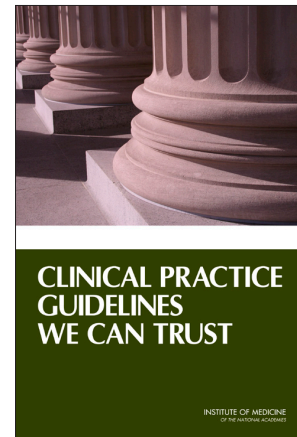
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Clinical Practice Guidelines We Can Trust



Standards for Developing Trustworthy Clinical Practice Guidelines (CPGs)

STANDARD 1
Establishing transparency

- 1.1** The processes by which a CPG is developed and funded should be detailed explicitly and publicly accessible.

STANDARD 2
Management of conflict of interest (COI)

- 2.1** Prior to selection of the Guideline Development Group (GDG), individuals being considered for membership should declare all interests and activities potentially resulting in COI with development group activity, by written disclosure to those convening the GDG.
- Disclosure should reflect all current and planned commercial (including services from which a clinician derives a substantial proportion of income), non-commercial, intellectual, institutional, and patient/public activities pertinent to the potential scope of the CPG.
- 2.2** Disclosure of COIs within GDG
- All COI of each GDG member should be reported and discussed by the prospective development group prior to the onset of their work.
 - Each panel member should explain how their COI could influence the CPG development process or specific recommendations.
- 2.3** Divestment
- Members of the GDG should divest themselves of financial investments they or their family members have in, and not participate in marketing activities or advisory boards of, entities whose interests could be affected by CPG recommendations.

2.4 Exclusions

- Whenever possible GDG members should not have COI.
- In some circumstances, a GDG may not be able to perform its work without members who have COIs, such as relevant clinical specialists who receive a substantial portion of their incomes from services pertinent to the CPG.
- Members with COIs should represent not more than a minority of the GDG.
- The chair or co-chairs should not be a person(s) with COI.
- Funders should have no role in CPG development.

STANDARD 3
Guideline development group composition

- 3.1** The GDG should be multidisciplinary and balanced, comprising a variety of methodological experts and clinicians, and populations expected to be affected by the CPG.
- 3.2** Patient and public involvement should be facilitated by including (at least at the time of clinical question formulation and draft CPG review) a current or former patient and a patient advocate or patient/consumer organization representative in the GDG.
- 3.3** Strategies to increase effective participation of patient and consumer representatives, including training in appraisal of evidence, should be adopted by GDGs.

GUIDELINES WE CAN TRUST continued

STANDARD 4

Clinical practice guideline–systematic review intersection

- 4.1** CPG developers should use systematic reviews that meet standards set by the Institute of Medicine's Committee on Standards for Systematic Reviews of Comparative Effectiveness Research.
- 4.2** When systematic reviews are conducted specifically to inform particular guidelines, the GDG and systematic review team should interact regarding the scope, approach, and output of both processes.

STANDARD 5

Establishing evidence foundations for and rating strength of recommendations

- 5.1** For each recommendation, the following should be provided:
- An explanation of the reasoning underlying the recommendation, including:
 - A description of potential benefits and harms.
 - A summary of relevant available evidence (and evidentiary gaps), description of the quality (including applicability), quantity (including completeness), and consistency of the aggregate available evidence.
 - An explanation of the part played by values, opinion, theory, and clinical experience in deriving the recommendation.
 - A rating of the level of confidence in (certainty regarding) the evidence underpinning the recommendation.
 - A rating of the strength of the recommendation in light of the preceding bullets.
 - A description and explanation of any differences of opinion regarding the recommendation.

STANDARD 6

Articulation of recommendations

- 6.1** Recommendations should be articulated in a standardized form detailing precisely what the recommended action is and under what circumstances it should be performed.
- 6.2** Strong recommendations should be worded so that compliance with the recommendation(s) can be evaluated.

STANDARD 7

External review

- 7.1** External reviewers should comprise a full spectrum of relevant stakeholders, including scientific and clinical experts, organizations (e.g., health care, specialty societies), agencies (e.g., federal government), patients, and representatives of the public.
- 7.2** The authorship of external reviews submitted by individuals and/or organizations should be kept confidential unless that protection has been waived by the reviewer(s).
- 7.3** The GDG should consider all external reviewer comments and keep a written record of the rationale for modifying or not modifying a CPG in response to reviewers' comments.
- 7.4** A draft of the CPG at the external review stage or immediately following it (i.e., prior to the final draft) should be made available to the general public for comment. Reasonable notice of impending publication should be provided to interested public stakeholders.

STANDARD 8

Updating

- 8.1** The CPG publication date, date of pertinent systematic evidence review, and proposed date for future CPG review should be documented in the CPG.
- 8.2** Literature should be monitored regularly following CPG publication to identify the emergence of new, potentially relevant evidence and to evaluate the continued validity of the CPG.
- 8.3** CPGs should be updated when new evidence suggests the need for modification of clinically important recommendations. For example, a CPG should be updated if new evidence shows that a recommended intervention causes previously unknown substantial harm, that a new intervention is significantly superior to a previously recommended intervention from an efficacy or harms perspective, or that a recommendation can be applied to new populations.

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