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October 11, 2012

Message from the Chief Medical Officer: **by S. N. Charles Cho, M.D.**

This Pharmacy Newsletter covers smoking cessation, chronic pain management and medication guidelines for the treatment of asthma and allergic rhinitis.

They are comprehensive and I hope you find them useful. Our team of clinical pharmacists, Richard Kleinberger, Pharm. D. and Dina Atalla-Mikhail, Pharm. D., have researched and worked hard on these subjects in consultation with the specialists on the Gold Coast Health Plan P & T Committee. What they came up with–in my view–is an excellent dissertation that is informative, academic and a good reference tool.

Smoking can lead to serious health problems. Cessation can reduce the risk of suffering from smoking-related diseases, improve one's health and ultimately helps to save lives. Quitting smoking is difficult with many patients relapsing and resulting in the potential need for different drug interventions. Our newsletter talks about treating tobacco use and dependence, as well as presenting drug therapies for tobacco cessation.

The use of pain medication in today's society is a trade-off between the potential abuses and the skyrocketing costs they present. The safe and effective use of these medications is essential. I hope you'll find our information on chronic pain management helpful.

Asthma is widely prevalent and so are the associated costs of the drugs that treat it. As a matter of fact, this class of drugs is the highest for our health plan. Singulair, a leukotriene receptor antagonist (LTRA), is our most expensive drug. Remember, LTRAs are not to be used as monotherapy or as the first-line agent for long-term control of asthma or allergic rhinitis. Our medication guidelines for the appropriate treatment of asthma and allergic rhinitis should be helpful.

As always, for any feedback or concerns about our pharmacy program, please contact me at 805-981-5315 or email me at ccho@goldchp.org.

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Gold Coast Health Plan Pharmacy Services Newsletter

Fall 2012

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Suggestions for the clinical use of pharmacotherapies for smoking cessation

Pharma-cotherapy	Precautions/ Contraindications	Side Effects	Dosage	Duration	Availability	Cost/day
First-line Pharmacotherapies (Approved for use for smoking cessation by the FDA)						
Bupropion SR	History of seizure History of eating disorder	Insomnia Dry mouth	150 mg every morning for 3 days, then 150 mg twice daily (Begin treatment 1-2 weeks pre-quit)	7-12 weeks maintenance up to 6 months	Zyban (prescription only)	$3.33
Nicotine Gum		Mouth soreness Dyspepsia	1-24 cigs/day- 2 mg gum (up to 24 pcs/day) 25+ cigs/day- 4 mg gum (up to 24 pcs/day)	Up to 12 weeks	Nicorette, Nicorette Mint (OTC only)	$6.25 for 10, 2-mg pieces $6.87 for 10, 4-mg pieces
Nicotine Inhaler		Local irrita-tion of mouth and throat	6-16 cartridges/day	Up to 6 months	Nicotrol Inhaler (prescription only)	$10.94 for 10 cartridges
Nicotine Nasal Spray		Nasal irritation	8-40 doses/day	3-6 months	Nicotrol NS (prescription only)	$5.40 for 12 doses

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Suggestions for the clinical use of pharmacotherapies for smoking cessation (continued)

Pharma-cotherapy	Precautions/ Contraindications	Side Effects	Dosage	Duration	Availability	Cost/day
Nicotine Patch		Local skin reaction Insomnia	21 mg/24 hours 14 mg/24 hours 7 mg/24 hours 15 mg/16 hours	4 weeks then 2 weeks then 2 weeks 8 weeks	Nicoderm CQ, (OTC only), Generic patches (prescription and OTC) Nicotrol (OTC only)	Brand name patches $4.00-$4.50
Second-line Pharmacotherapies		(Not approved for use for smoking cessation by the FDA)				
Clonidine	Rebound hypertension	Dry mouth Drowsiness Dizziness Sedation	0.15-0.75 mg/day	3-10 weeks	Oral Clonidine-generic, Catapres (prescription only) Transdermal Catapres (prescription only)	Clonidine-$0.24 for 0.2 mg Catapres (transdermal) $3.50
Nortriptyline	Risk of arrythmias	Sedation Dry mouth	75-100 mg/day	12 weeks	Nortriptyline HCI-generic (prescription only)	$0.74 for 75 mg

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Treating Tobacco Use and Dependence

Tobacco is the single greatest cause of disease and premature death in America today, and is responsible for more than 430,000 deaths each year. Nearly 25 percent of adult Americans currently smoke, and 3,000 children and adolescents become regular users of tobacco every day. The societal costs of tobacco-related death and disease approach $100 billion each year. However, more than 70 percent of all current smokers have expressed a desire to stop smoking; if they successfully quit, the result will be both immediate and long-term health improvements. Clinicians have a vital role to play in helping smokers quit (1).

The drug treatment modalities and guidelines contained below were obtained from the Clinical Practice Guideline, *Treating Tobacco Use and Dependence*, (1) demonstrate that efficacious treatments for tobacco users exist and should become a part of standard caregiving. Research also shows that delivering such treatments is cost-effective. In summary, the treatment of tobacco use and dependence presents the best opportunity for clinicians to improve the lives of millions of Americans nationwide in a cost-effective manner.

Key Findings

The US DHS guidelines identified a number of key findings that clinicians should utilize:

1. Tobacco dependence is a chronic condition that often requires repeated intervention. However, effective treatments exist that can produce long- term or even permanent abstinence.
2. Because effective tobacco dependence treatments are available, every patient who uses tobacco should be offered at least one of these treatments:

- Patients *willing* to try to quit tobacco use should be provided with treatments that are identified as effective in the guideline.
- Patients *unwilling* to try to quit tobacco use should be provided with a brief intervention that is designed to increase their motivation to quit.

3. It is essential that clinicians and health care delivery systems (including administrators, insurers, and purchasers) institutionalize the consistent identification, documentation, and treatment of every tobacco user who is seen in a health care setting.
4. Brief tobacco dependence treatment is effective, and every patient who uses tobacco should be offered at least brief treatment.
5. There is a strong dose-response relationship between the intensity of tobacco dependence

counseling and its effectiveness. Treatments involving person-to-person contact (via individual, group, or proactive telephone counseling) are consistently effective, and their effectiveness increases with treatment intensity (e.g., minutes of contact).

6. Three types of counseling and behavioral therapies were found to be especially effective and should be used with all patients who are attempting tobacco cessation:

- Provision of practical counseling (problem solving/skills training);
- Provision of social support as part of treatment (intra-treatment social support); and
- Help in securing social support outside of treatment (extra-treatment social support).

Drug Therapies for Tobacco Cessation (See tables above)

7. Numerous effective pharmacotherapies for smoking cessation now exist. Except in the presence of contraindications, these should be used with all patients who are attempting to quit smoking

- Five *first-line* pharmacotherapies were identified that reliably increase long-term smoking abstinence rates:

  — Bupropion SR (GCHP Covered Drug)
  — Varenicline Tartrate (GCHP Covered Drug)
  — Nicotine gum (GCHP Covered Drug)
  — Nicotine inhaler (**Not Covered**)
  — Nicotine nasal spray (**Not Covered**)
  — Nicotine patch (GCHP Covered Drug)

- Two *second-line* pharmacotherapies were identified as efficacious and may be considered by clinicians if first-line pharmacotherapies are not effective:

  — Clonidine (GCHP Covered Drug)
  — Nortriptyline (GCHP Covered Drug)

- Over-the-counter nicotine patches are effective relative to placebo, and their use should be encouraged.

8. Tobacco dependence treatments are both clinically effective and cost- effective relative to other medical and disease prevention interventions. As such, insurers and purchasers should ensure that:

- All insurance plans include as a reimbursed benefit the counseling and pharmacotherapeutic treatments that are identified as effective in this guideline; and
- Clinicians are reimbursed for providing tobacco dependence treatment just as they are reimbursed for treating other chronic conditions.

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TobaccoFreeCA

California Smokers' Helpline
Free, personalized telephone support from trained counselors
1-800-NO BUTTS

La Linea de Ayuda Para Fumadores de California
En Español: 1-800-45-NO FUME

U.S. Centers for Disease Control and Prevention Smoking and Tobacco Use
Quitting information and data

Smokefree.gov
Quitting information and telephone counseling for residents outside of California
1-800-QUIT NOW

National Cancer Institute
Quitting information and telephone counseling
1-877-44U-QUIT

(1) Fiore MC, Bailey WC, Cohen SJ, et. al. Treating Tobacco Use and Dependence. Quick Reference Guide for Clinicians. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. October 2000. Updated: 2010

Chronic Pain Management Review (2):
safe and effective pain management.

- 116 million Americans have chronic pain;
- 50% of these are undertreated;
- of these, 25% receive no treatment.

Pain management principles

Acetaminophen

- good first-line "foundational" treatment for most patients.
- do not exceed 3 g/day for age >65 (4 g/d for others);
- caution patients about acetaminophen in OTC and combination products;
- 650 mg dose is as effective as 1000 mg, with less risk.

NSAIDs

- All NSAIDs have similar analgesic efficacy;
- to minimize cardiac risk, prescribe naproxen;
- to minimize GI bleed risk, add a PPI or H2 blocker;
- celecoxib (Celebrex) has a higher cardiac risk than other NSAIDs; its lower GI risk is negated by aspirin use.

Opiates

- can be useful when more analgesia is required;
- sometimes underused;
- addiction is rare with appropriate use and monitoring.

Drugs for neuropathic pain can be helpful in appropriately selected patients.

Non-pharmacologic therapies, including exercise and weight loss, can reduce the burden of pain.

Non-steroidal anti-inflammatory drugs (NSAIDs)

All provide equal pain relief, but have different cardiac and GI risk based on degree of COX-1 versus COX-2 inhibition.

Minimizing cardiac risk:

Naproxen (Naprosyn, Aleve, and generics) has the **lowest risk of cardiac side effects**.

Managing GI toxicity

For patients at increased risk of GI toxicity, add a **proton pump inhibitor** (PPI) such as omeprazole (Prilosec and generics) or an H2 blocker to the NSAID. For those at highest risk of GI side effects, if an NSAID must be used, celecoxib can be combined with a PPI.

GI toxicity risk factors:

- age >65
- history of GI bleed or peptic ulcer
- use of steroids, anticoagulants, or other NSAIDs, including aspirin

NSAIDs and cardioprotective doses of aspirin

Any dose of aspirin will reverse the GI protective effects of celecoxib. For patients who need both a cardioprotective aspirin and an NSAID, prescribe naproxen (with an H2 blocker or PPI to minimize GI risk if needed). Any NSAID should be taken at least 8 hours before or 30 minutes after aspirin to prevent the NSAID from interfering with aspirin's cardiac benefit.[7]

Sometimes, an opiate is needed

Most opiates have equal analgesic efficacy, adjusting for dose.

- However, pharmacogenic and other differences among patients can cause different degrees of pain relief and adverse reactions. Of these, differences in codeine metabolism are the most common.

Opiates are very effective in pain relief, but come with important risks.

- sedation,
- constipation,
- confusion,
- falls and fractures, and
- addiction potential.

Addiction, dependence, and accidental overdose are all potential problems with chronic opiate use.

- As needed dosing (versus scheduled dosing) and higher doses increase the risk of accidental overdose.

Reduce risk of opiate misuse with specific prevention measures.

<u>When starting:</u>

- **Reserve opiates** for patients with moderate to severe pain who do not respond to other agents.
- When considering long-term opiate use, **screen for risk of addiction and misuse**. This risk is often over-estimated.
- Using a **medication agreement** can help establish a shared understanding of treatment goals and expectations.

<u>During treatment:</u>

- Regularly **reassess** pain, adverse effects, and risk of misuse.
- Use the **lowest dose** of opiate possible.
- **Refer** to a pain specialist if a patient is not improving or shows evidence of misuse.
- Use caution when switching between opiate classes; dose conversion charts do not always reflect how variable patient responses will be.

Get ahead of bowel problems. Start a bowel regimen proactively when initiating an opiate.

- Ask about constipation at follow-up visits.

Opiate-like agents

- tramadol (ultram): short- and long-acting; generics available
- tapentadol (Nucynta): only short-acting; no generics available (a Schedule II agent)

Both are as effective as other low-potency opiates (e.g. Schedule III agents).

	Comments	Opiate-like agents better	Opiates better
Minor side effects	opiate-like ages have lower rate of nausea, vomiting, loss of appetite, and dizziness	**X**	
Major side effects	opiate-like agents have lower rate of fractures and safety events requiring hospitalization	**X**	
Drug interactions	cannot combine opiate-like agents with any serotenergic agents (TCAs, SNRIs, SSRIs)		**X**
Contraindications	tramadol cannot be used in patients with suicide or seizure risk		**X**
Long-term safety data	tapentadol was FDA approved 2009		**X**
Use in renal or liver impairment	tapentadol cannot be used in patients with severe liver or renal impairment		**X**

Neuropathic pain (e.g. diabetic neuropathy, post-herpetic neuralgia, fibromyalgia)

Some anti-convulsants and antidepressants are effective in treating the neuropathic component of pain, though their use is often limited by adverse effects.

- most common side effects are somnolence, dizziness, and nausea.
- triyclic antidepressants should be used very carefully and at low dose in the elderly, with regular assessments of anti-cholinergic side effects.

Comparative efficacy of selected antidepressants and anti-convulsants in the treatment of diabetic neuropathy.

Agent (# high quality trials)	% pain reduction, compared to placebo	Common adverse effects
Amitriptyline (3)	58-63%	dry mouth urinary retention hypotension cardiac conduction abnormality
Venlafaxine (2) Duloxetine (3)	8-23%	decreased appetite constipation nausea vomiting
Pregablin (4) Gabapentin (2)	11-13%	confusion edema

Combining an opiate with a neuropathic agent in diabetic neuropathy can reduce pain levels better than either drug alone, at low doses.

Other treatments

Other approaches can have modest effects in reducing pain.

Treatment	Advantage	Disadvantage
Local steroid injections (joint pain)	injection lasts ~4 weeks minimal systemic effects	invasive; requires expertise
Local viscosupplement injections (e.g. hyaluronan, joint pain)	injection lasts ~5-13 weeks minimal systemic effects	invasive; requires expertise high cost
Topical capsaicin and salicylate products (local superficial pain)	over-the-counter low cost minimal systemic effects may be large placebo component	local skin reactions common
Topical lidocaine patch (local superficial pain)	minimal systemic effects	effective only for superficial, not deep pain not always covered
Topical diclofenac (joint pain)	short-term pain relief (<2 weeks) minimal side effects	no long-term pain relief high cost
Glucosamine/chondroitin oral tablets	over-the-counter low cost	minimally effective not regulated by the FDA

For many patients with severe degenerative joint disease, replacing a hip or knee can provide substantial relief and end the need for dependence on pain medications. Consider referral to a specialist for worsening DJD.

Non-pharmacologic interventions can also be useful in controlling pain, improving function, or both in osteoarthritis, fibromyalgia, and chronic low back pain.

	Goal		
Condition	Pain control	Improving function	Both
Osteoarthritis	quadriceps strengthening	weight loss (combined with exercise)	Tai Chi therapeutic ultrasound electromagnetic stimulation braces and insoles acupuncture exercise
Fibromyalgia	Cognitive Behavioral Therapy exercise acupuncture	–	Tai Chi
Chronic Low Back Pain	spinal manipulation massage Cognitive Behavioral Therapy	–	exercise

Cost

- Acetaminophen and most NSAIDs are available OTC or as easily affordable generics.
- Most long-acting opioids are costly, while many short-acting opiates are available as easily affordable generics.
- Within agents for neuropathic pain, tricyclic antidepressants are available as affordable generics, but some SNRIs and anti-convulsants are costly.

References: (2) 1. IOM. Relieving pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. 2011. 2. Won AB, Lapane KL, Vallow S, Schein J, Morris JN, Lipsitz LA. Persistent nonmalignant pain and analgesic prescribing patterns in elderly nursing home residents. J Am Geriatr Soc. Jun 2004;52(6):867-874. 3. Towheed TE, Maxwell L, Judd MG, Catton M, Hochberg MC, Wells G. Acetaminophen for osteoarthritis. Cochrane Database Syst Rev. 2006(1):CD004257. 4. Roelofs PD, Deyo RA, Koes BW, Scholten RJ, van Tulder MW. Non-steroidal anti-inflammatory drugs for low back pain. Cochrane Database Syst Rev. 2008(1):CD000396. 5. Antman EM, Bennett JS, Daugherty A, Furberg C, Roberts H, Taubert KA. Use of nonsteroidal antiinflammatory drugs: an update for clinicians: a scientific statement from the American Heart Association. Circulation. Mar 27 2007;115(12):1634-1642. 6. Rostom A, Dube C, Wells G, et al. Prevention of NSAID-induced gastroduodenal ulcers. Cochrane Database Syst Rev. 2002(4):CD002296. 7. Chan FK, Wong VW, Suen BY, et al. Combination of a cyclo-oxygenase-2 inhibitor and a proton-pump inhibitor for prevention of recurrent ulcer bleeding in patients at very high risk: a double-blind, randomised trial. Lancet. May 12 2007;369(9573):1621-1626. 8. Bohnert AS, Valenstein M, Bair MJ, et al. Association between opioid prescribing patterns and opioid overdose-related deaths. JAMA. Apr 6;305(13):1315-1321. 9. Chou R, Fanciullo GJ, Fine PG, et al. Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. J Pain. Feb 2009;10(2): 113-130. 10. Upshur CC, Luckmann RS, Savageau JA. Primary care provider concerns about management of chronic pain in community clinic populations. J Gen Intern Med. Jun 2006;21(6):652-655. 11. Solomon DH, Rassen JA, Glynn RJ, et al. The comparative safety of opioids for nonmalignant pain in older adults. Arch Intern Med. Dec 13;170(22):1979-1986. 12. Rodriguez RF, Castillo JM, Castillo MP, et al. Hydrocodone/acetaminophen and tramadol chlorhydrate combination tablets for the management of chronic cancer pain: a doubleblind comparative trial. Clin J Pain. Jan 2008;24(1):1-4. 13. Wong MC, Chung JW, Wong TK. Effects of treatments for symptoms of painful diabetic neuropathy: systematic review. BMJ. Jul 14 2007;335(7610):87. 14. Gilron I, Bailey JM, Tu D, Holden RR, Weaver DF, Houlden RL. Morphine, gabapentin, or their combination for neuropathic pain. N Engl J Med. Mar 31 2005;352(13):1324-1334.

Medication Guidelines for Appropriate Treatment of Asthma and Allergic Rhinitis:

Medications:

Medications for asthma are categorized into two general classes: long-term control medication and quick-relief medication. Selection of medications includes consideration of the general mechanisms and role of the medication in therapy, delivery devices, and safety.

General Mechanisms and Role in Therapy:

Long-term control medications are used daily to achieve and maintain control of persistent asthma. The most effective are those that attenuate the underlying inflammation characteristic of asthma. Long-term control medications include the following:

Corticosteroids are anti-inflammatory medications that reduce airway hyper-responsiveness, inhibit inflammatory cell migration and activation, and block late phase reaction to allergens. Inhaled Corticosteriods (ICSs) are the most consistently effective long-term control medication at all steps of care for persistent asthma, and ICSs improve asthma control more effectively in both children

and adults than leukotriene receptor antagonists (LTRAs) or any other single, long-term control medications do. ICSs reduce impairment and risk of exacerbations, but ICSs do not appear to alter

the progression or underlying severity of the disease in children. Short courses of oral systemic corticosteroids are often used to gain prompt control of asthma. Oral systemic corticosteroids are used long term to treat patients who require care (for severe persistent asthma).

Cromolyn sodium stabilize mast cells and interfere with chloride channel function.
It is used as an alternative, but not preferred, medication for patients requiring care (for mild persistent asthma). Also, it can be used as preventive treatment before exercise or unavoidable exposure to known allergens.

Immunomodulators. Omalizumab (anti-IgE) is a monoclonal antibody that prevents binding of IgE to the high-affinity receptors on basophils and mast cells. Omalizumab is used as adjunctive therapy for patients 12 years of age who have sensitivity to relevant allergens (e.g., dust mite, cockroach, cat, or dog) and for care (for severe persistent asthma). Clinicians who administer omalizumab should be prepared and equipped to identify and treat anaphylaxis that may occur.

Leukotriene modifiers interfere with the pathway of leukotriene mediators, which are released from mast cells, eosinophils, and basophils. These medications include LTRAs (montelukast and zafirlukast) LTRAs are alternative, but not preferred, therapy for the treatment of patients who require care (for mild persistent asthma). LTRAs also can be used as adjunctive therapy with ICSs, but for youths 12 years of age and adults, they are not preferred adjunctive therapy compared to the addition of LABAs. LTRAs can attenuate exercise -induced bronchospams, but must not be used as a primary agent for treatment of exercise-induced bonchospasm (EIB). A SABA (albuterol) must be used as a primary agent for treatment.

*REMINDER*REMINDER*REMINDER

— LTRAs are not to be used as monotherapy or first-line agents for long-term control of asthma or allergic rhinitis.

The Plan requires the following parameters for providers requesting LTRAs for their members:

- Patients must have diagnosis of **Moderate Persistent or Mild Persistent Asthma**, **Allergic Rhinitis,** or **Exercised-Induced Bronchoconstriction**. The Plan will NOT approve LTRAs for Severe Persistent Asthma.
- **Asthma** - patients must have a history of utilization, treatment failure, intolerance, or contraindication to a trial of inhaled corticosteroids and long-acting inhaled beta-2 agonist and may have used short-acting inhaled beta-2 agonists as well.
- **Allergic Rhinitis** – patients must have a history of utilization, treatment failure, intolerance, or contraindication to a trial of intranasal corticosteroids or antihistamines.
- **Exercised-Induced Bronchoconstriction** – patients must have a history of utilization, treatment failure, intolerance, or contraindication to a trial of short-acting beta- agonists.

□

LABAs (salmeterol and formoterol) are inhaled bronchodilators that have a duration of bronchodilation of at least 12 hours after a single dose.

— LABAs are not to be used as monotherapy for long-term control of asthma.

— LABAs are used in combination with ICSs for long-term control and prevention of symptoms in moderate or severe persistent asthma care in children ≥5 years of age and adults or in children 0–4 years of age, although few data are available for 0–4-year-olds.).

— Of the adjunctive therapies available, LABA is the preferred therapy to combine with ICS in youths ≥12 years of age and adults.

— A LABA may be used before exercise to prevent EIB, but duration of action does not exceed 5 hours with chronic, regular use. Frequent or chronic use before exercise is discouraged, because this may disguise poorly controlled persistent asthma.

Methylxanthines. Sustained-release theophylline is a mild to moderate bronchodilator used as alternative, not preferred, therapy care (for mild persistent asthma) or as adjunctive therapy with ICS in patients ≥5 years of age. Theophylline may have mild anti-inflammatory effects. Monitoring of serum theophylline concentration is essential.

Anticholinergics inhibit muscarinic cholinergic receptors and reduce intrinsic vagal tone of the airway. Ipratropium bromide provides additive benefit to SABA in moderate or severe exacerbations in the emergency care setting, not the hospital setting. Ipratropium bromide may be used as an alternative bronchodilator for patients who do not tolerate SABA, although it has not been compared to SABAs.

SABAs—albuterol and levalbuterol—are bronchodilators that relax smooth muscle. They are the treatment of choice for relief of acute symptoms and prevention of EIB. Increasing use of SABA treatment or the use of SABA >2 days a week for symptom relief (not prevention of EIB) generally indicates inadequate asthma control and the need for initiating or intensifying anti-inflammatory therapy. Regularly scheduled, daily, chronic use of SABA is not recommended.

Systemic corticosteroids. Although not short-acting, oral systemic corticosteroids are used for moderate and severe exacerbations in addition to SABA to speed recovery and to prevent recurrence of exacerbations.

Reference: **National Asthma and Education Prevention Program Expert Report Panel 3:** ***Guidelines for the Diagnosis and Management of Asthma*** **; 2007-2011.**