Pharmacy Phacts: Updates in Medications

Cheryl Maslouski, PharmD, RPh, BCACP
Clinical Pharmacist, Primary Care Network
Nationwide Children's Hospital

MedNet21
Center for Continuing Medical Education

The Ohio State University
Wexner Medical Center

Objectives

- Discuss two new medicines for the treatment of Attention-Deficit/Hyperactivity Disorder (ADHD)
- Integrate new asthma treatment guidelines into patient care
- List two new treatments for infectious diseases
- Provide three examples of medication cost-savings
- Discuss two safety concerns of medications from the presentation

Case — ADHD

- ML is an 8yo male with diagnoses of ADHD, autism, and insomnia who you are seeing in clinic for follow-up of conditions.
- His medications include methylphenidate XR suspension (Quillivant™) 20mg qam and clonidine 0.1mg TID.
- He is not able to swallow solid dosages and has taste and sensation aversions when crushing tablets or opening capsules.
- His ADHD is well-controlled and vital signs are stable.

Case — ADHD

Caregivers are happy with his therapy, but they would like to decrease the number of times per day they give him clonidine. What are their options?

a. Change to guanfacine ER 1mg tablet at bedtime.
b. There are no options and will have to continue therapy.
c. Initiate clonidine XR suspension (Onyda™ XR) 0.1mg po qHS and d/c 0.1mg tablets
d. Change clonidine to melatonin liquid 1mg at bedtime.

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Clonidine XR suspension 0.1mg/mL

- $Alpha_2$-adrenergic agonist FDA approved for the treatment of ADHD in pediatric patients ≥6 years of age
- Once daily at bedtime
- Monotherapy or adjunct to stimulants
- Side effects and safety concerns are the same as clonidine tablets
- Store at room temperature for 30-60 days
- Adapter and dosing syringe
- Citrusy, orange flavor

Clonidine XR suspension 0.1mg/mL

Initial Dose	Titrate	Maximum Dose	Discontinue Therapy
0.1mg at bedtime	0.1mg every 7 days	0.4mg once daily	Decrease by 0.1mg every 3-7 days

- NOT interchangeable on a mg-mg basis with tablet formulations.
- Suspension or crush tablets?
- Insurance coverage

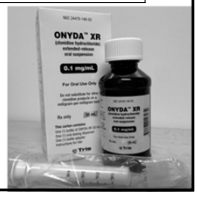

Photo credit: Jillian Gould, PharmD, RPH

Case — ADHD

- CL is a 10yo female with a diagnosis of ADHD who is being seen in your clinic for follow-up of ADHD.
- Her ADHD is sub-optimally treated with stimulant therapy, limited by patient's failure to grow. Her vital signs are stable.
- She has tried alpha-agonists in addition to her stimulant but was not able to tolerate somnolent side effects.

Case — ADHD

CL's caregivers would like to know what other medicines are available. Which do you suggest?

a. Add a stimulant from a different class.
b. Add viloxazine ER
c. Add bupropion.
d. Add cyproheptadine.

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Norepinephrine Reuptake Inhibitors (NRI's)

	Atomoxetine (Strattera®)	**Viloxazine ER (Qelbree®)**
Dosage Form	Capsule	Capsule
Administration	Swallow whole	Swallow whole or open
Dosing	mg/kg, titrate after 3 days	100mg – 600mg, titrate weekly
Frequency	1-2x daily	Daily
Onset of action	2 weeks	1 week
Generic	Yes	No
Safety	Suicidal ideation, liver	Suicidal ideation
Metabolism	CYP2D6	CYP1A2

Atomoxetine or Viloxazine ER

- 50 patients with combined-type ADHD at a psychiatric center in an open-label, voluntary crossover study of atomoxetine and viloxazine ER

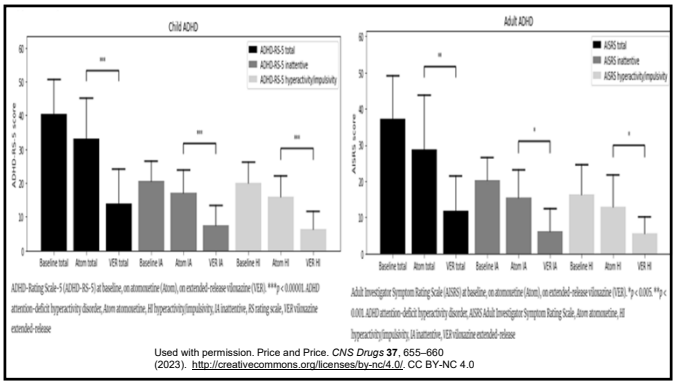
Study Subjects	**Pediatric**	**Adult**
Number	35	15
Age (average, range)	11.9 (6-17) years	29.3 (20-51) years
Sex	94.3% male	73.3% male
Race	94.3% white	93.3% white
Concomitant stimulant therapy	42.9%	73.3%

Atomoxetine or Viloxazine ER

- Pediatric ADHD Rating Scale and Adult Investigator Symptom Rating Scale

Atomoxetine → 5-day washout → Viloxazine ER

- Maximum treatment of 4 weeks each
- Atomoxetine average daily dose: 60mg (25-100mg)
- Viloxazine ER average daily dose: 300mg (100-600mg)



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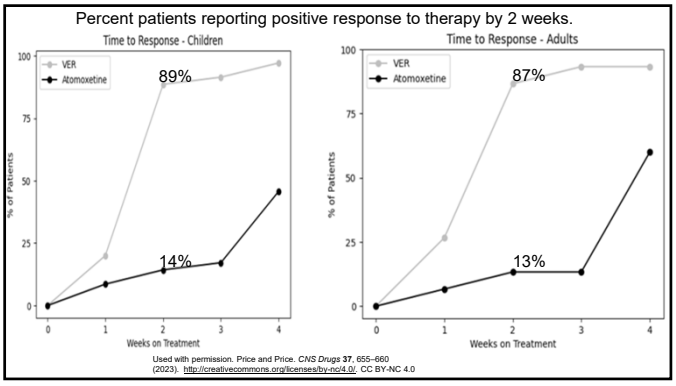

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Atomoxetine or Viloxazine ER

- No one discontinued due to lack of response
- Discontinued for side effects
  - 36% discontinued atomoxetine
  - 4% discontinued viloxazine ER
- 96% participants preferred viloxazine ER over atomoxetine
- 85% were able to taper psychostimulants

Atomoxetine or Viloxazine ER

- Limitations
  - Very small population
  - Unblinded, open-label, retrospective chart review
  - No placebo group
  - Potential placebo effect, period effect, carryover effect
- Strengths
  - Pediatric and adult participants
  - Validated rating scales
  - Real-world clinic setting
- Barrier = insurance preferences

Two Truths and a Lie—ADHD

a. High doses of amphetamines may be linked to risk of psychosis over methylphenidate in adolescents and young adults.
b. Patients that take stimulants or norepinephrine reuptake inhibitors for treatment of ADHD should be monitored for cardiovascular side effects.
c. Stimulant adverse effects can be expected at the same incidence in all patients no matter their age.

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Two Truths and a Lie—Allergies

a. A new warning for cetirizine and levocetirizine is the possibility of developing kidney stones.
b. Omalizumab is approved to reduce allergic reactions to food in patients 1 year of age and older.
c. neffy® is the name of a new epinephrine nasal spray approved by the FDA.

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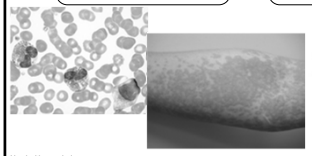
Omalizumab (Xolair®)

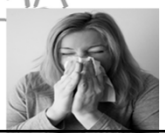
2024 FDA approval to reduce allergic reactions to food in patients as young as 1 year of age

Preventative not rescue

Practice avoidance and carry epinephrine



ASTHMA



Epinephrine nasal spray (neffy®)

- Approved for patients down to 4 years of age.
  - 15-29kg: 1mg/0.1mL
  - ≥30kg: 2mg/0.1mg
- Similar to other sprayers
- Clinical trials for approval:
  - Four adult studies
  - 1 pediatric study
- Compared to intramuscular epinephrine

Epinephrine nasal spray (neffy®)

- Side effects
  - Nasal discomfort, tingling, dryness
  - Epistaxis
  - Sneezing, rhinitis or congestion
  - Anxiety or dizziness
- 1 sprayer in 1 naris
  - Repeat in 5 minutes in the same nostril if needed.
- Prescribe at least 2 devices + refills
- About $200 per carton of 2
- Instant savings down to $25 for 4

Case—Asthma

TL is a 23yo female in clinic for a follow-up of her persistent asthma.

She expresses to you her frustration with having to have 2 inhalers for the treatment of her asthma. Her medications include medium-dose inhaled corticosteroid (ICS) daily BID and albuterol as needed (prn).

TL needs at least 2 puffs of albuterol for her asthma symptoms, and albuterol works sometimes. She is adherent to her ICS.

A friend mentioned to TL that her doctor gave her one inhaler to use daily and as needed, and TL tells you she is interested in something similar.

Case — Asthma

Which of the following points should you *not* include in your counseling about SMART (single maintenance and reliever therapy) to TL?

a. ICS-formoterol inhaler patents have been extended since the FDA approved them for use as SMART.
b. ICS-formoterol SMART regimen significantly reduces the risk of severe exacerbations compared to traditional daily controller + prn albuterol regimens.
c. The preferred product for SMART is budesonide + formoterol.
d. ICS-formoterol inhaler can also be used before physical activity.

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SMART/MART Pearls

PRN doses of ICS-formoterol are just 1 puff	Can be used in any patient 4 years of age an older	Patients with a history or risk of adverse events to systemic steroids	Doses of ICS depend on the patient's age (4-11yo and ≥12yo)
Max daily doses: 4-11yo = 8 puffs 12yo+ = 12 puffs	Do not HAVE to rinse after prn doses	Prescriptions should be written for 2 inhalers per dispense	Works as quickly as albuterol and as well as having 2 inhalers

Two Truths and a Lie—Asthma

a. Uninsured patients can get low-cost inhalers for treatment of asthma and chronic obstructive pulmonary disease (COPD).
b. Providers are excelling in the adoption and implementation of Global Initiative for Asthma (GINA) asthma guidelines.
c. Montelukast has recently been found to attach to receptors in the brain that impact psychiatric functioning.

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Case—COPD

DM is a 66yo male who you are seeing for a COPD exacerbation follow-up; he is back to baseline. He is a 20-pack year former smoker. His medication regimen includes umeclidinium-vilanterol 6.25mcg-25mcg/actuation dry powder inhaler, 1 inhalation once daily; and albuterol 90mcg/actuation metered dose inhaler, 2 puffs with a spacer q4h prn cough, wheeze, shortness of breath.

The clinic pharmacist reports that the patient is adherent to treatment and has good device techniques.

He is not a candidate for LABA/LAMA/ICS triple therapy because he does not have an elevated eosinophil count.

Case—COPD

DM would like to know if there is anything else that can be done to prevent exacerbations. Which of the following do you discuss with him as an option?

a. There are no additional medicines that can be added.
b. Initiate dupilumab sub-q injections.
c. If he has another exacerbation, you will send him to the hospital for treatment with benralizumab.
d. Initiate azithromycin 500mg three times weekly.

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Case—COPD

Seeing how sick DM gets with his COPD, his wife would like help with her smoking cessation efforts. Which of the following suggestions can you give her?

a. Nicotine replacement as monotherapy
b. Change to cigars
c. DM should hide his wife's cigarettes and lighter
d. ZYN® nicotine pouches

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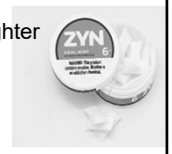

Respiratory Syncytial Virus (RSV) Immunoglobulin

	Nirsevimab (Beyfortus®)	Clesrovimab (Eflonsia™)
Dosage Form	Prefilled syringe for injection	
Administration	Intramuscular	
Dosing	<5kg = 50mg ≥5kg = 100mg 2nd RSV season = 200mg (2 x 100mg)	105mg
Target population	<8 months of age 8-19 months of age at increased risk	<8 months of age
Frequency	Once unless vulnerable for a 2nd season	Once
Age Limitation	Up to 24 months of age	Up to 12 months of age
Length of immunity	At least 5 months	
Price	$556 for all doses	

Two Truths and a Lie—Infectious Disease

a. Treating a female's sexual male partner for bacterial vaginosis has no effect on the female patient's risk of recurrence.

b. Solupenem etzadroxil and probenecid (Orlynvah™) is a new antibiotic to treat female urinary tract infections.

c. Gepotidacin (Blujepa™) is a new antibiotic successful in treating female urinary tract infections and gonorrhea.

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Insulin Affordability

Brand	Package Size	Daily Dose	Day's Supply	Price
Lantus® SoloStar® 100 units/mL	Any quantity!	Any dose!	30 days	$35
Toujeo® SoloStar® 300 units/mL	Any quantity!	Any dose!	30 days	$35

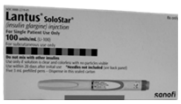


Photo credit: Jillian Gould, PharmD, RPH

Insulin Affordability

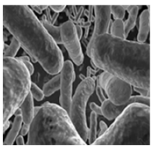
Walmart's ReliOn® Brand	Package Size	Daily Dose	Day's Supply	Price
-NPH 100 units/mL -Regular 100 units/mL -70/30 100 units/mL	10mL vial	80 units	12 days	~$25
-NPH 100 units/mL -Regular 100 units/mL -70/30 100 units/mL	5 - 3mL pens per carton	80 units	18 days	~$43

DOAC "Affordability"

- Rivaroxaban 2.5mg tablet
  - Indicated for the reduction of major cardiac events in adults with coronary artery disease and peripheral artery disease
  - 10mg, 15mg, 20mg, and starter packs are brand name
  - #60 for 30 days $150-$200
- Eliquis® Direct-to-Consumer Sales
  - Eliquis 360 Support Program
  - Under- and uninsured patients
  - ~43% discount
  - Medicare averages $230

Medication Safety

- Disposal
  - DEA Take Back Days
  - Mail-back envelopes
  - Collection receptacles
- Probiotics in premature babies
- Tirzepatide and oral contraceptives
- Testosterone replacement and the heart



Summary

- Clonidine XR (Onyda™ XR) suspension and viloxazine ER (Qelbree®) are two newer ADHD medicines.
- New medicines and new ways to treat allergic reactions and asthma exist.
- Nirsevimab (Beyfortus®) and clesrovimab (Eflonsia™) are passive antibodies to prevent severe RSV infection in infants.
- Solupenem etzadroxil (Orlynvah™) and Gepotidacin (Blujepa™) are new antibiotics to treat female UTI

Summary

- Manufacturers have programs to make medications like insulin and inhalers more affordable, but not all generic medications are affordable.
- Safety concerns about medications revolve around issues such as disposal, side effects, and drug-drug interactions.