TEST TO TREAT CE

Covid, Flu, & Strep; An Interactive Case Series

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Objectives

- 1) Review protocol and state laws around test to treat in New Mexico
- 2) Define patient case series and treatment guidelines and recommendations
- 3) Use Interactive "Viewers Choose the Ending" to safely and effectively treat patients

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Disclosure

- Nothing to disclose
- Special thank you to APhA and their Test-to-Treat training program

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Test-to-Treat Review

- Current Regulations:
  - 1) PEP
  - 2) COVID
  - 3) Influenza
  - 4) Strep Throat
- Pending Regulations:
  - 5) Uncomplicated UTI
- Future Pending Regulations:
  - 6) STDs
  - 7) PrEP

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Large Scale Steps to Test-to-Treat

- 1) Look to purchase a test-to-treat machine that works best with your pharmacy needs (i.e. CLIA waived, storage, cost/contracts, ease of use, sensitivity, specificity, type of specimen).
- 2) Apply and receive CLIA Waiver and biohazard pickup.
- 3) Receive Test-to-Treat NMPhA training and certification.
- 4) Create billing codes, bar codes, marketing, and business plan.
- 5) Perform point-of-care test and prescribe as appropriate.
- 6) Complete 2 hours of Live CE every 2 years for certification to never expire.

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Board of Pharmacy Test-to-Treat Regulations

16.14 PRESCRIBING DANGEROUS DRUGS IN CONJUNCTION WITH POINT-OF-CARE TESTING

A. Protocol:

(1) Prescriptive authority shall be exercised solely in accordance with the written protocol for prescribing of dangerous drugs in conjunction with point-of-care testing (POCT) approved by the board.

(2) Any pharmacist exercising prescriptive authority for prescribing of dangerous drugs in conjunction with POCT must maintain a current copy of the written protocol approved by the board.

B. Education and training:

(1) The pharmacist must successfully complete a course of training, accredited by the accreditation council for pharmacy education (ACPE), for each category of POCT for which the pharmacist exercises prescriptive authority, provided by:

(a) the New Mexico pharmacists association; or

(b) a similar health authority or professional body approved by the board.

(2) Training must include study materials and instruction in the following content areas:

(a) mechanism of action;

(b) contraindications;

(c) identifying indications for the use of protocol formulary drug therapy;

(d) patient screening, history and assessment criteria;

(e) counseling and training patient and care-giver regarding the safety, efficacy and potential adverse effects of prescribed protocol formulary dangerous drug(s);

(f) evaluating patient's medical profile for drug interactions;

(g) patient referrals;

(h) informed consent;

(i) record management;

(j) management of adverse events.

(3) Continuing education: Any pharmacist exercising prescriptive authority for POCT formulary drug therapy shall complete a minimum of 0.2 CEU of live ACPE approved formulary drug therapy related continuing education every two years, for each category of POCT for which the pharmacist exercises prescriptive authority. Such continuing education shall be in addition to requirements in 16.19.4.10 NMAC.

C. Authorized drug(s): Prescriptive authority shall be limited to those drugs in the Board-approved protocol.

D. Records:

(1) The prescribing pharmacist must generate a written or electronic prescription for any medication dispensed under the protocol.

(2) Informed consent must be documented in accordance with the approved protocol and a record of such consent maintained in the pharmacy for a period of at least three years.

E. Notification: Upon signed consent of the patient, the pharmacist shall notify the patient's designated physician or primary care provider within 15 days of dispensing.

https://www.srca.nm.gov/parts/title16/16.019.0016.html

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Board of Pharmacy Test-to-Treat Protocol

PROTOCOL FOR PHARMACIST PRESCRIBING OF DANGEROUS DRUGS IN CONJUNCTION WITH POINT-OF-CARE TESTING (POCT)

I. TITLE: New Mexico Pharmacist prescribing of dangerous drugs in conjunction with point-of-care testing (POCT) is intended to support and pursuant to, New Mexico Board of Pharmacy ("Board") Regulation (16.19.26 NMAC).

II. PURPOSE: To assist pharmacists in providing safe and effective prescribing of dangerous drugs in conjunction with CLIA-Waived point-of-care testing (POCT) in New Mexico. Additionally, to set criteria for properly trained and certified pharmacists to prescribe in a safe manner for all eligible and appropriately screened patients in New Mexico who would benefit from testing and therapy.[1-5]

a. COVID-19 FDA-authorized or FDA-approved therapy;
b. Group A Beta-Hemolytic Streptococcus (GAS) Pharyngitis antimicrobial therapy;
c. Influenza antiviral therapy.

III. BACKGROUND: Studies have shown that pharmacist prescribing of dangerous drugs in conjunction with POCT can be beneficial, safe, and effective - see **References, Section XVIII.**[1-5]

IV. GUIDELINES: All pharmacists participating in prescriptive authority for dangerous drugs in conjunction with POCT will:

a. Follow the current prevailing evidence-based guidelines and recognized standards of practice,
b. Follow the current Board-approved pharmacist prescriptive authority training and protocol, including appropriate screening, history, assessment, patient education, and referrals,
c. Follow the applicable **Pharmacist Procedures Section XII and Formulary Section XIII**, as detailed in the Board approved protocol.
d. Assess the need for referral to the patient's primary care provider, urgent care, emergency care, local clinic, or specialty clinic for other recommended testing and follow-up, including patients not eligible for POCT, as appropriate.

V. PHARMACIST MANDATES: All pharmacists participating in prescriptive authority for dangerous drugs in conjunction with POCT must:

a. Follow the current Board approved protocol and have on-site access to the protocol.
b. Possess the knowledge, skills and abilities to appropriately engage in dangerous drug prescribing in conjunction with POCT, and complete the Board approved required training course.
c. Maintain required documentation, including patient records, prescriptions and POCT results.
d. Keep patient specific documents securely stored, electronically or in a locked cabinet in the pharmacy, and HIPAA policies must be followed, as with other pharmacy related materials. These documents will include informed consent, screening documents, and other relevant information, as anneverate.
e. Follow-up with patients, according to prevailing evidence-based guidelines, and clinical studies, as appropriate.
f. Satisfactorily complete the Board approved pharmacist prescriptive authority training course(s).
g. Provide proper notification to the patient's primary care provider of the prescription and POCT results, with patient approval, as stated in the informed consent.
h. Provide proper notification to the New Mexico Department of Health (NMDOH), as required.
i. Follow CLIA-waived requirements for utilized FDA or Emergency Use Authorization (EUA) tests.
j. Complete 2 hours of live ACPE accredited continuing education credits in POCT per category of testing and treatment, every 2 years, to maintain active certification.
k. Documentation of POCT results must:
   i. Be maintained by the certified prescribing pharmacist, and POCT results must be provided to the patient.
   ii. Be sent to the NMDOH as required by New Mexico law.
   iii. Be provided to others (i.e. primary care providers, employers, etc.), upon patient request.

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Board of Pharmacy Test-to-Treat Protocol

VI. HEALTH ASSESSMENT: Proper assessment of the patient presenting for POCT may include the following:

a. Patient history
b. Family history
c. Social history
d. Current living environment
e. Concurrent illness
f. Allergies and hypersensitivities
g. Medication history
h. Risk factors
i. Additional exposures
j. Physical assessment
k. Other information, as appropriate

VII. CONTRAINDICATIONS AND PRECAUTIONS:

a. Pharmacists with prescriptive authority will follow current prevailing evidence-based guidelines, recognized standards of practice, and professional prescribing information.

VIII. PATIENT EDUCATION: Patient materials can include:

a. General medical condition(s)
b. Drug information
c. Adherence
d. Side effects
e. Referral/follow-up information
f. Other education, as appropriate

IX. REFERRALS:

The pharmacist will provide timely and appropriate referrals as indicated. Referrals may include the patient's primary care provider, urgent care, emergency care, licensed telemedicine provider, specialty clinic, or NMDOH for complete evaluation. The pharmacist will refer under the following circumstances:

i. a patient with a known allergy that interacts or may interact with the dangerous drug(s) in conjunction with POCT, and wishing intervention;
ii. a patient experiencing intolerable side effects or signs/symptoms, and wishing intervention;
iii. if the certified prescribing pharmacist is unable to prescribe indicated dangerous drug(s) in conjunction with POCT for a patient. The pharmacist will communicate timely with the patient regarding the pharmacist's inability and referral.
iv. all patients exhibiting any of the exclusion criteria.

X. INFORMED CONSENT: The informed consent form and process will be provided during the pharmacist training course(s). Informed consent must be obtained from the patient prior to POCT and prescribing of dangerous drugs.

XI. RECORDS:

a. Consent form
b. Patient documentation, including medical history
c. Records of notification and reporting
d. Records of patient education provided
e. Billing
f. Prescription(s)
g. Additional records

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Senate Bill 92 Pharmacist Expanded Scope of Practice

SECTION 2. A new section of the Pharmacy Act is enacted to read:

"[NEW MATERIAL] TESTING, SCREENING AND TREATMENT OF HEALTH CONDITIONS.--

A. Pursuant to a board-approved written protocol, a pharmacist may order, test, screen and treat for the following health conditions or situations:

(1) influenza;

(2) group A streptococcus pharyngitis;

(3) SARS-COV-2 or other respiratory illness, condition or disease;

(4) lice;

(5) urinary tract infection;

(6) skin conditions, including ringworm and athlete's foot;

(7) minor, uncomplicated infections;

(8) human immunodeficiency virus; and

(9) other emerging and existing public health threats identified by the board or department of health, including preventive health, mental health, substance abuse disorders and infectious disease prevention if permitted by an order, rule or regulation or pursuant to a declaration by the board's executive director during civil or public health emergencies.

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C. A pharmacist may delegate the administrative and technical tasks of performing a test waived by the federal Clinical Laboratory Improvement Amendments of 1988, as amended, to a pharmacist intern or pharmacy technician acting under the supervision of the pharmacist."

Pharmacy Technicians and Test-to-Treat New Mexico

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Ordering of Lab Values and Test-to-Treat New Mexico

B. A pharmacist who orders, tests, screens or treats for health conditions or situations pursuant to this section may use any test that may guide clinical decision making, including tests waived pursuant to the federal Clinical Laboratory Improvement Amendments of 1988, as amended, the federal rules adopted thereunder or any established screening procedure that can safely be performed by a pharmacist.

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Some Other States, Legislation, 2023

- **Colorado**
  - Senate Bill 162 expands techs' scope of practice to perform point of care tests under the supervision of a pharmacist.
- **Connecticut**
  - Senate Bill 1102 expands pharmacist prescriptive authority to perform point of care tests and prescribe for PEP/Prep, and for techs to administer vaccines.
- **Montana**
  - Senate Bill 112 expands pharmacist prescriptive authority for conditions that don't require a new diagnosis, are minor, generally self-limiting, and can be diagnosed with a CLIA waived test or are patient emergencies.

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Test-to-Treat Intake Form New Mexico

New Mexico Pharmacist Association Test-To-Treat Informed Consent and Patient Intake Form

By providing your consent to take a test for point-of-care testing voluntarily, you will be confirming that you understand the following:

- *The test may require a nasal/oral swab and is not guaranteed to be painless.*
- *The test takes an average of no less than 30 to 60 minutes to return a result. Thus, you will be notified of the testing result(s) and given appropriate advice if appropriate.*
- *Test results will not be shared with any third party and kept confidential at the pharmacy.*
- *Variable results are possible in persons who are immunosuppressed or have other patient characteristics.*
- *No point-of-care test is 100% accurate.*
- *If the test result is positive, you will isolate and try to not infect others, and adhere to current any state guidelines.*

Patient Name:_____Parent/Guardian Name (if Minor):_____

Date of Birth and Patient Age:_____Relationship to Patient (leave blank if self):_____

Patient Primary Care provider (if any):_____

Primary care provider address/telephone (if any):_____

Patient Signature:_____Date:_____

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Test-to-Treat Intake Form New Mexico

Patient Questions	
1) What point-of-care test would you like to get today?	
2) What are your symptoms?	
3) What date did your symptoms first start?	
4) What is your age?	
5) What other medical conditions do you have?	
6) What allergies do you have (food, medications)?	
7) What medications do you take (prescription or over-the-counter)?	
8) Are you pregnant or breastfeeding?	
9) Have you received any vaccines in the past 2 weeks, of so, which ones?	
10) Have you had any medical procedures in the past 2 weeks, if so, which ones?	

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Test-to-Treat Intake Form New Mexico

Test-to-Treat	Pharmacist Physical Assessment Form	Result(s)
All Therapies, Consider	Age (for flu & strep, if ≤3 years, referral required)	
Strep, Consider	Throat Exam Findings (any tonsillar exudate, swollen tonsils)	
Strep, Consider	Lymph Node Palpation Exam Findings (swollen/tender)	
Strep, Consider	Centor Score ≥1 required	
Flu, Consider	Oxygen Saturation (refer if <90%)	
All Therapies	Temperature	
All Therapies	Weight (not needed for strep ≥ 18 yrs of age)	
All Therapies	Current Medication List Past Medication History Allergies/Hypersensitivities	
All Therapies	Confirm Pregnancy or Breastfeeding	
All Therapies	Confirm Immunocompromised State	
All Therapies	(High Risk Patient Vitals Collection) Includes Blood Pressure Pulse Respiratory Rate O2 Saturation	
All Therapies	Primary Care Provider notified in 15 days of any RX	
All Therapies	Follow-Up Completed if needed (required for flu 24-48 hours post prescribing)	

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Test-to-Treat Intake Form New Mexico

Pharmacist Intake Form	
Chief Complaint	
Symptoms	
Location of the Symptoms	
When did the Symptoms Start?	
What Medications have you Tried?	
What Makes the Symptoms Better?	
What Makes the Symptoms Worse?	
Patient History	
Family History	
Social History (Beliefs, Perceptions)	
Current Living Environment (Family Member with Illness)	
Confirmed Allergies/Hypersensitivities	
History of Present Illness	
Past Medical History	
Medications (Rx, OTCs)	
Patient Risk Factors (if any)	
Patient Additional Exposures (if any)	
Determined to be clinically unstable or emergency symptoms Requires Referral • Systolic hypotension < 100 mmHg • Tachypnea > 25 breaths/min (> 20 breaths/min for patients aged < 18 years) • Tachycardia > 100 beats/min (> 119 beats/min for patients aged < 18 years) • Oxygenation < 90% via pulse oximetry • Temperature > 103°F (≥104°F for patients aged < 18 yo)	
Immunocompromised or immunocompromised drug therapy (corticosteroids for greater than 2 weeks) (consider referral for Flu and Covid and must refer for Strep)	
History of rheumatic fever, rheumatic heart disease, scarlet fever, or strep-induced glomerulonephritis (Refer for Strep)	

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Test-to-Treat Intake Form New Mexico

Test-to-Treat	Covid Pharmacist Prescribing Parameters	Result(s)
Covid Only	Labs in past 12 months (kidney & liver function) eGFR < 30 do not prescribe Paxlovid eGFR ≥30-60 dose reduction eGFR ≥ 60 normal dosing Child Pugh Score A,B normal dosing Child Pugh Score C do not prescribe Paxlovid	
Covid Only	Confirm Age, Patient is ≥12 yrs and at least 40kg – Paxlovid OK Patient is > 18 yrs – Molnupiravir OK	
Covid Only	Must confirm no significant drug interactions – Paxlovid	
Covid Only	Non-pharmacological therapy recommended	
Additional Notes		

Summary of Treatment and Dosing

Covid		
Paxlovid (within 5 days onset of symptoms)	>12 yrs old, nirmatrelvir 150mg (300mg)/ritonavir 100mg x 5 days	Needs renal dosing Check liver function Confirm drug interactions
Molnupiravir (within 5 days onset of symptoms)	≥18 yrs old, 800mg BID x 5 days	

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Test-to-Treat Intake Form New Mexico

Test-to-Treat	Flu Pharmacist Prescribing Parameters	Result(s)
Flu Only	Oxygen Saturation	
Flu Only	Confirm Pregnancy, Breastfeeding, or Immunocompromised State (special cautions in antiviral prescribing, consider using oseltamivir)	
Flu Only	Allergies/Hypersensitivities (dairy allergy, avoid zanamivir-contains milk proteins, sugar intolerance, avoid oseltamivir)	
Flu Only	Received LAIV (Flumist) in past 2-15 days, would not benefit from influenza antiviral at this time (length of time is specific per antiviral)	
Flu Only	Weight based dosing for oseltamivir >40kg = 75mg BID x 5 days >23kg-40kg = 60mg BID x 5 days >15-23kg = 45mg BID x 5 days	
Flu Only	Weight based dosing for baloxivir 20kg-80kg = 40mg as one dose ≥80kg = 80mg as one dose	
Flu only	Kidney function CrCl, oseltamivir dose adjustment needed eGFR <10 do not prescribe oseltamivir eGFR 30-50mL/min = 75mg BID x 5 days eGFR 10-30mL/min = 75mg QD or 30mg BID x 5 days	
Flu Only	Non-Pharmacological therapy recommended	
Flu Only	Follow-up required in 24-48 hours	
Additional Notes		

Flu		
Oseltamivir in Pediatric	<15kg or less, 30mg BID x 5 days >15 to≥23 kg or less, 45mg BID x 5 days >23 to 40kg, 60mg mg BID x 5 days >40kg, 75mg BID x 5 days	Needs renal dosing
Oseltamivir in Adult	75mg BID x 5 days	
Zanamivir	≥7 yrs old, 5mg inhalation BID x 5 days	Avoid in airway diseases
Baloxivir	≥12 yrs old, 40kg to <80kg, 40mg single dose ≥12 yrs old, ≥80 kg, 80mg single dose	Avoid in pregnancy, breastfeeding, immunocompromised

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Test-to-Treat Intake Form New Mexico

Test-to-Treat	Strep Pharmacist Prescribing Parameters	Result(s)
Strep, As Above	-Throat Exam Findings (any tonsillar exudate, swollen tonsils) -Lymph Node Palpation Exam Findings (swollen/tender)	/
Centor Score	≥1 required	
Strep Only	Adjunct therapy recommended (APAP, NSAID)	
Strep Only	Confirm immunocompromised State (for strep, if immunocompromised state/medications, referral required)	
Strep Only	Confirm no history of rheumatic fever, rheumatic heart disease, scarlet fever, or GAS induced glomerulonephritis (if yes, referral required)	

Strep		
Amoxicillin in Pediatric	25mg/kg BID x 10 days; max 500mg per dose	
Amoxicillin in Adult	500mg BID x 10 days	
Penicillin VK in Pediatric	250mg BID or TID x 10 days	
Penicillin VK in Adult	250mg QID for 500mg BID x 10 days	
Cephalexin (PCN Allergy, avoid in anaphylaxis to PCN type reactions)	20mg/kg BID; max 500mg per dose	
Clindamycin (PCN allergy with anaphylaxis type reactions)	7mg/kg TID; max 300mg per dose	
Azithromycin & Clindamycin	High Prevalence of Resistance in Pharyngeal Isolates	

Strep Only	Confirm patient is clinically stable (if no, referral required)	
Additional Notes		

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Question

- What are the five sections outlined in the Pharmacist Patient Care Process that help provide pharmacists' a consistent process to follow in the delivery of patient care?

❑Collect, Analyze, Plan, Follow-up: Monitor and Evaluate, Refer

❑Collect, Advise, Document, Plan, Follow-up: Monitor and Evaluate

❑Collect, Assess, Plan, Implement, Follow-up: Monitor and Evaluate

❑Collect, Assess, Document, Plan, Follow-up: Monitor and Evaluate

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Answer

- What are the five sections outlined in the Pharmacist Patient Care Process that help provide pharmacists' a consistent process to follow in the delivery of patient care?

❑Collect, Analyze, Plan, Follow-up: Monitor and Evaluate, Refer

❑Collect, Advise, Document, Plan, Follow-up: Monitor and Evaluate

Collect, Assess, Plan, Implement, Follow-up: Monitor and Evaluate

❑Collect, Assess, Document, Plan, Follow-up: Monitor and Evaluate

- Answer: Recognizing the need for a consistent process in the delivery of patient care across the profession, the Joint Commission of Pharmacy Practitioners (JCPP) released the Pharmacists' Patient Care Process. The process includes the following elements: Collect, Assess, Plan, Implement, and Follow-up: Monitor and Evaluate.

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Case

- K.G. is a 66 year old male who presents to the pharmacy with fever, chills, non-productive cough, and fatigue for over 48 hours. He also reports diarrhea and vomiting. He has no other known health conditions or on any medication at this time. He appears short of breath and is breathing rapidly. Upon physical exam, you note K.G.'s heart rate is 109 beats/min and respiratory rate is 29 breaths/min. What is the best course of action for this patient?

❑Perform the point-of-care test and treat this patient as appropriate

❑Refer patient to the emergency room or nearest urgent care facility for immediate care due to clinical instability

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Answer

- K.G. is a 66 year old male who presents to the pharmacy with fever, chills, non-productive cough, and fatigue for over 48 hours. He also reports diarrhea and vomiting. He appears short of breath and is breathing rapidly. Upon physical exam, you note K.G.'s heart rate is 109 beats/min and respiratory rate is 29 breaths/min. What is the best course of action for this patient?

❑Perform the point-of-care test and treat this patient as appropriate

Refer patient to the emergency room or nearest urgent care facility for immediate care

- Patients who are exhibiting symptoms of clinically instability or are clinically unstable such as this patient requires referral
  - Hypotension
  - Tachypnea > 25 breaths/min (> 20 breaths/min for patients aged < 18 years)
  - Tachycardia > 100 beats/min (> 119 beats/min for patients aged < 18 years)
  - Decreased oxygenation
  - High fever

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Once K.G. is feeling better, what vaccines would you prescribe for him?

- 66 year old male
- Do not give vaccines during moderate to severe illness
- No other health conditions at this time
- No medications at this time
- No vaccine record or NMSIIS record found
  - ✓Influenza
  - ✓Covid
  - ✓Shingrix
  - ✓Tdap
  - ✓RSV (shared decision making)

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Clinically Unstable, Referral Required

- What are the parameters to determine clinical instability?
  - Systolic hypotension < 100 mmHg
  - Tachypnea > 25 breaths/min (> 20 breaths/min for patients aged < 18 years)
  - Tachycardia > 100 beats/min (> 119 beats/min for patients aged < 18 years)
  - Oxygenation < 90% via pulse oximetry
  - Temperature > 103°F (>104°F for patients aged < 18 yrs)

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Question (Influenza)

- Which of the following are "hallmark signs" of influenza?

❑Headache and nasal congestion

❑Fever and non-productive cough

❑Malaise and fatigue

❑Chest pain

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Answer (Influenza)

- Which of the following are "hallmark signs" of influenza?

❑Headache and nasal congestion

Fever and non-productive cough

❑Malaise and fatigue

❑Chest pain

- Answer: Fever and non-productive cough are "hallmark signs" of influenza and together, these symptoms are associated with a 70-86% sensitivity of diagnosing influenza during high influenza season. In strep throat, a cough is not usually present.

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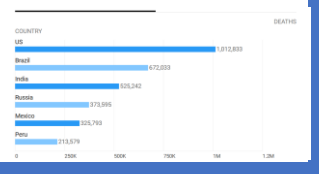
When Performing Test-to-Treat, Consider

- Past vaccination history, if relevant
- Season or timing of illness
- Additional exposures
- Illness activity in your given area
- Travel to other regions & activity



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Case (Influenza)

- J.M. is a 38 year old female who presents at the pharmacy with fever, cough, some chills, and muscle aches. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested for influenza and get medication to treat the flu as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications of influenza

❑Initiate oseltamivir without testing for influenza since her symptom duration is greater than 48 hours

❑Complete a rapid influenza point-of-care test and if positive initiate antiviral therapy for influenza

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Answer (Influenza)

- J.M. is a 38 year old female who presents at the pharmacy with fever, cough, chills, and muscle aches. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested for influenza and get medication to treat the flu as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications of influenza

❑Initiate oseltamivir without testing for influenza since her symptom duration is greater than 48 hours

❑**Complete a rapid influenza point-of-care test and if positive initiate antiviral therapy for influenza**

- Answer: Since influenza treatment is recommended to be initiated within 48 hours of symptom onset or as soon as possible, patients who are exhibiting signs of influenza-like illness for greater than 48 hours may be referred for further discussion of benefits/risks of therapy, **however** antiviral therapy prescribed by a pharmacist may still provide benefit post 48 hours. She also has no PCP at this time.
- Answer choice B and C are not correct because initiation of therapy requires a positive point-of-care test and low risk patients are still treated for influenza if clinically appropriate.

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Case

- J.M. is a 38 year old female who presents at the pharmacy with fever, cough, sore throat, some chills, muscle aches, and fatigue. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested and get medication to treat as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications

❑Initiate treatment without testing since her symptoms are well defined

❑Complete a rapid point-of-care test and if positive initiate therapy for…

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Answer

- J.M. is a 38 year old female who presents at the pharmacy with fever, cough, sore throat, some chills, muscle aches, and fatigue. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested and get medication to treat as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications

❑Initiate treatment without testing since her symptoms are well defined

❑**Complete a rapid point-of-care test and if positive initiate therapy for…**

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Answer (Influenza)

- J.M. is a 38 year old female who presents at the pharmacy with fever, cough, sore throat, some chills, muscle aches, and fatigue. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested and get medication to treat as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications

❑Initiate treatment without testing since her symptoms are well defined

❑Complete a rapid point-of-care test and if positive initiate therapy for…

Test-to-Treat	Flu Pharmacist Prescribing Parameters	Result(s)
Flu Only	Oxygen Saturation	
Flu Only	Confirm Pregnancy, Breastfeeding, or Immunocompromised State (special cautions in antiviral prescribing, consider using oseltamivir)	
Flu Only	Allergies/Hypersensitivities (dairy allergy, avoid zanamivir-contains milk proteins, sugar intolerance, avoid oseltamivir)	
Flu Only	Received LAIV (Flumist) in past 2-15 days, would not benefit from influenza antiviral at this time (length of time is specific per antiviral)	
Flu Only	Weight based dosing for oseltamivir >40kg = 75mg BID x 5 days >23kg-40kg = 60mg BID x 5 days >15-23kg = 45mg BID x 5 days	
Flu Only	Weight based dosing for baloxivir 20kg-80kg = 40mg as one dose ≥80kg = 80mg as one dose	
Flu only	Kidney function CrCl, oseltamivir dose adjustment needed eGFR <10 do not prescribe oseltamivir eGFR 30-50mL/min = 75mg QD or 30mg BID x 5 days	
Flu Only	Non-Pharmacological therapy recommended	
Flu Only	Follow-up required in 24-48 hours	
Additional Notes		

Flu		
Oseltamivir in Pediatric	<15kg or less, 30mg BID x 5 days >15 to23 kg or less, 45mg BID x 5 days >23 to 40kg, 60mg mg BID x 5 days >40kg, 75mg BID x 5 days	Needs renal dosing
Oseltamivir in Adult	75mg BID x 5 days	
Zanamivir	≥7 yrs old, 5mg inhalation BID x 5 days	Avoid in airway diseases
Baloxivir	≥12 yrs old, 40kg to <80kg, 40mg single dose ≥12 yrs old, ≥80 kg, 80mg single dose	Avoid in pregnancy, breastfeeding, immunocompromised

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Answer (Covid)

- J.M. is a 38 year old female who presents at the pharmacy with fever, cough, sore throat, some chills, muscle aches, and fatigue. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested and get medication to treat as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications

❑Initiate treatment without testing since her symptoms are well defined

❑Complete a rapid point-of-care test and if positive initiate therapy for…

Test-to-Treat	Covid Pharmacist Prescribing Parameters	Result(s)
Covid Only	Labs in past 12 months (kidney & liver function) eGFR < 30 do not prescribe Paxlovid eGFR ≥30-60 dose reduction eGFR ≥ 60 normal dosing Child Pugh Score A,B normal dosing Child Pugh Score C do not prescribe Paxlovid	
Covid Only	Confirm Age. Patient is ≥12 yrs and at least 40kg – Paxlovid OK Patient is > 18 yrs – Molnupiravir OK	
Covid Only	Must confirm no significant drug interactions – Paxlovid	
Covid Only	Non-pharmacological therapy recommended	
Additional Notes		

Covid		
Paxlovid (within 5 days onset of symptoms)	>12 yrs old, nirmatrelvir 150mg (300mg)/ritonavir 100mg x 5 days	Needs renal dosing Check liver function Confirm drug interactions
Molnupiravir (within 5 days onset of symptoms)	≥18 yrs old, 800mg BID x 5 days	

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Answer (Strep)

- J.M. is a 38 year old female who presents at the pharmacy with fever, sore throat, and swollen tonsils. She reports that her symptoms began 3 days earlier (72 hours ago). She has no PCP or insurance due to a change in employer recently. She would like to be tested and get medication to treat as part of your Test-to-Treat protocol. What is the best course of action?

❑Refer patient to her physician due to symptoms duration of greater than 48 hours

❑Do not need to test or treat this patient since she is not in a high priority group for complications

❑Initiate treatment without testing since her symptoms are well defined

❑Complete a rapid point-of-care test and if positive initiate therapy for…

Test-to-Treat	Strep Pharmacist Prescribing Parameters	Result(s)
Strep, As Above	-Throat Exam Findings (any tonsillar exudate, swollen tonsils) -Lymph Node Palpation Exam Findings (swollen/tender)	
Centor Score	≥1 required	
Strep Only	Adjunct therapy recommended (APAP, NSAID)	
Strep Only	Confirm immunocompromised State (for strep, if immunocompromised state/medications, referral required)	
Strep Only	Confirm no history of rheumatic fever, rheumatic heart disease, scarlet fever, or GAS induced glomerulonephritis (if yes, referral required)	

Strep		
Amoxicillin in Pediatric	25mg/kg BID x 10 days; max 500mg per dose	
Amoxicillin in Adult	500mg BID x 10 days	
Penicillin VK in Pediatric	250mg BID or TID x 10 days	
Penicillin VK in Adult	250mg QID for 500mg BID x 10 days	
Cephalexin (PCN Allergy, avoid in anaphylaxis to PCN type reactions)	20mg/kg BID; max 500mg per dose	
Clindamycin (PCN allergy with anaphylaxis type reactions)	7mg/kg TID; max 300mg per dose	
Azithromycin & Clindamycin	High Prevalence of Resistance in Pharyngeal Isolates	

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Question (Influenza)

- Which of the following medications used for the treatment of influenza is contraindicated in patients with underlying respiratory conditions due to the potential adverse effect of bronchospasm?

❑Baloxavir

❑Amantadine

❑Zanamivir

❑Oseltamivir

36

Answer (Influenza)

- Which of the following medications used for the treatment of influenza is contraindicated in patients with underlying respiratory conditions due to the potential adverse effect of bronchospasm?

❑Baloxavir

❑Amantadine

Zanamivir (Relenza)

❑Oseltamivir

- Answer: Zanamivir is contraindicated in patients with underlying respiratory disease due to the potential for bronchospasm. This is because it is delivered in an inhaled route while oseltamivir and baloxavir are oral medications.
- Amantadine is not recommended in the IDSA guidelines for the treatment of influenza due to high rates of resistance.

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Case (Influenza)

- J.S. is an 8 year old female (Height: 4'9" Weight: 86 lbs.) who has tested positive for influenza with the rapid influenza diagnostic point-of-care test. She reports fever, chills, abdominal pain, and malaise which all began 24 hours ago. She has no other health conditions or past medical history. What is the most appropriate dose of oseltamivir (Tamiflu) for this patient?

❑60mg by mouth twice daily

❑45mg by mouth twice daily

❑30mg by mouth twice daily

❑75 mg by mouth twice daily

Flu		
Oseltamivir in Pediatric	<15kg or less, 30mg BID x 5 days >15 to23 kg or less, 45mg BID x 5 days >23 to 40kg, 60mg mg BID x 5 days >40kg, 75mg BID x 5 days	Needs renal dosing
Oseltamivir in Adult	75mg BID x 5 days	
Zanamivir	≥7 yrs old, 5mg inhalation BID x 5 days	Avoid in airway diseases
Baloxivir	≥12 yrs old, 40kg to <80kg, 40mg single dose ≥12 yrs old, ≥80 kg, 80mg single dose	Avoid in pregnancy, breastfeeding, immunocompromised

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Answer (Influenza)

- J.S. is an 8 year old female (Height: 4'9" Weight: 86 lbs.) who has tested positive for influenza with the rapid influenza diagnostic point-of-care test. She reports fever, chills, abdominal pain, and malaise which all began 24 hours ago. She has no other health conditions or past medical history. What is the most appropriate dose of oseltamivir (Tamiflu) for this patient?

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Flu		
Oseltamivir in Pediatric	<15kg or less, 30mg BID x 5 days >15 to23 kg or less, 45mg BID x 5 days >23 to 40kg, 60mg mg BID x 5 days >40kg, 75mg BID x 5 days	Needs renal dosing
Oseltamivir in Adult	75mg BID x 5 days	
Zanamivir	≥7 yrs old, 5mg inhalation BID x 5 days	Avoid in airway diseases
Baloxivir	≥12 yrs old, 40kg to <80kg, 40mg single dose ≥12 yrs old, ≥80 kg, 80mg single dose	Avoid in pregnancy, breastfeeding, immunocompromised

86 lbs. = 39 kg

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Question (GAS)

- Which of the following symptoms of Strep Throat may point to a viral etiology?

❑Fever, odynophagia (painful swallowing), lymphadenitis

❑Conjunctivitis, hoarseness, runny nose

❑Headache, abdominal pain, red and swollen uvula

❑Tonsillopharyngeal erythema/exudate, soft palate petechiae (red spots), scarlatiniform rash

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Answer (GAS)

- Which of the following symptoms of pharyngitis may point to a viral etiology?

❑Fever, odynophagia, lymphadenitis

Conjunctivitis, hoarseness, runny nose

❑Headache, abdominal pain, red and swollen uvula

❑Tonsillopharyngeal erythema/exudate, soft palate petechiae, scarlatiniform rash

- Answer: Patient's with the following symptoms may have a viral infection, which should not be treated with antibiotics: conjunctivitis, cough, hoarseness, or runny nose.

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Question (GAS)

- Which of the following is a potential benefit of giving an antibiotic for group A streptococcal (GAS) pharyngitis?

❑Antibiotics can reduce complications of acute otitis media or sinusitis

❑Antibiotics reduce the need for throat cultures

❑Antibiotics reduces the need for patient follow-up

❑Antibiotics can shorten the duration of symptoms by 48 hours

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Answer (GAS)

- Which of the following is a potential benefit of giving an antibiotic for group A streptococcal pharyngitis?

Antibiotics can reduce complications of acute otitis media or sinusitis

❑Antibiotics reduce the need for throat cultures

❑Antibiotics reduces the need for patient follow-up

❑Antibiotics can shorten the duration of symptoms by 48 hours

- Antibiotics can reduce complications of acute otitis media or sinusitis and shorten the duration of symptoms by 16 hours rather than 49 hours as in selection D

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Case (GAS)

- A.B. is a 10 year old who has tested positive for group A streptococcal pharyngitis (GAS). She has typical signs/symptoms of GAS pharyngitis with no "red flag" symptoms. She has no known drug allergies. Which is the most appropriate antibiotic for A.B.?

❑Clindamycin

❑Amoxicillin

❑Cephalexin

❑Azithromycin

Strep		
Amoxicillin in Pediatric Amoxicillin in Adult	25mg/kg BID x 10 days; max 500mg per dose 500mg BID x 10 days	
Penicillin VK in Pediatric Penicillin VK in Adult	250mg BID or TID x 10 days 250mg QID for 500mg BID x 10 days	
Cephalexin (PCN Allergy, avoid in anaphylaxis to PCN type reactions)	20mg/kg BID; max 500mg per dose	
Clindamycin (PCN allergy with anaphylaxis type reactions)	7mg/kg TID; max 300mg per dose	
Azithromycin & Clindamycin	High Prevalence of Resistance in Pharyngeal Isolates	

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Answer (GAS)

- A.B. is a 10 year old who has tested positive for group A streptococcal pharyngitis (GAS). She has typical signs/symptoms of GAS pharyngitis with no "red flag" symptoms. She has no known drug allergies. Which is the most appropriate antibiotic for A.B.?

❑ Clindamycin

Amoxicillin

❑ Cephalexin

❑ Azithromycin

Answer: In the New Mexico protocol, weight for Strep prescribing is required for those <18 years of age.

Amoxicillin and penicillin are first line therapies for the treatment of GAS. It is indicated for children 25mg/kg (max 500mg)dose PO every 12 hours for 10 days). Amoxicillin is preferred over penicillin due to less frequent dosing.

Cephalexin would be considered if A.B. had an insensitivity type allergy to amoxicillin/penicillin

Clindamycin is considered when amoxicillin, penicillin, and cephalosporins are not available or not tolerated (anaphylactic type reactions).

Azithromycin should be avoided as much as possible due to resistance.

90 lbs. = 41kg
25mg x 41kg = 1025 mg (max = 500 mg BID)

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Case (Influenza)

- K.T. is a 37 year old male who presents to your pharmacy to be tested for influenza. He has a fever, headache, and muscle aches which started yesterday morning with no other relevant past medical history to report. He said everyone at his workplace is out with the flu. The rapid influenza diagnostic point-of-care test showed positive results for influenza. What is the best course of action for K.T.?

❑Start peramivir (Rapivab) for 10 days of therapy

❑Start oseltamivir (Tamiflu) or zanamivir (Relenza) for 5 days of therapy

❑Wait for laboratory confirmation before treating him with an antiviral agent

❑Start baloxavir (Xofluza) for 5 days of therapy

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Answer (Influenza)

- K.T. is a 37 year old male who presents to your pharmacy to be tested for influenza. He has a fever, headache, and muscle aches which started yesterday morning with no other relevant past medical history to report. He said everyone at his workplace is out with the flu. The rapid influenza diagnostic point-of-care test showed positive results for influenza. What is the best course of action for K.T.?

❑ Start peramivir (Rapivab) for 10 days of therapy

Start oseltamivir (Tamiflu) or zanamivir (Relenza) for 5 days of therapy

❑ Wait for laboratory confirmation before treating him with an antiviral agent

❑ Start baloxavir (Xofluza) for 5 days of therapy

- Answer: Antiviral agents should be started as soon as possible for the treatment of influenza. Agents used to treat influenza work by preventing replication which means they are most effective when the virus is replicating the most, which is at the beginning of the life cycle.
- Oseltamivir and zanamivir should be used for 5 days for most patients not including immunocompromised or critically ill patients.
- Baloxavir is a one time dose and is not used for 5 days.

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Case (Influenza)

- R.F. is a 43 year old male was diagnosed with the flu a week ago. His fever subsided and he was starting to feel a bit better. Today he reports the following symptoms: fever has returned, cough is worse, shortness of breath, and pressure in his chest. What is the best course of action for R. F.?

❑Let his Primary Care Provider know about these symptoms during his next scheduled visit

❑Call Primary Care Provider to report symptoms or go to the emergency room immediately

❑No specific treatment, these are not concerning symptoms

❑Wait to see if symptoms improve over the next few days

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Answer (Influenza)

- R.F. is a 43 year old male was diagnosed with the flu a week ago. His fever subsided and he was starting to feel a bit better. Today he reports the following symptoms: fever is back, cough is worse, shortness of breath, and pressure in his chest. What is the best course of action for R. F.?

❑Let his Primary Care Provider know about these symptoms during his next scheduled visit

Call Primary Care Provider to report symptoms or go to the emergency room immediately

❑No specific treatment, these are not concerning symptoms

❑Wait to see if symptoms improve over the next few days

- Answer: Shortness of breath, pressure in the chest/abdomen, and fever or cough that improve but then return or worsen are emergency warning signs in adults that warrant immediate medical attention.

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Summary

- Review: If primary provider is identified on consent, must notify provider within 15 days of prescribing.
- IDSA guidelines approved therapies are all part of the pharmacist prescribing formulary.
- Patients will utilize Test-to-Treat as pharmacists begin to offer more services and as provider shortages continue to increase.
- Pharmacists can Test-to-Treat in a safe and effective manner that is best for the patient and patient outcomes.

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