Sexually Transmitted Infections
Clinical Pathway Synopsis

STI Screening & Testing Algorithm

Inclusion Criteria:
- Signs and symptoms of STI
- Risk factors for STI
- Patients that request STI testing

Exclusion Criteria:
- Pre-pubertal child
  Call SCAN provider on call
- Treatments of the following:
  - Pelvic inflammatory disease
  - Epididymitis, orchitis, or proctitis
  - Immunocompromised patients
  - Hepatitis
- Alternative treatments are not included in this guideline
  - *Refer to the CDC STI Pocket Guide*

Special Considerations:
(consult Social Work for the following scenarios)
- Concern for abuse/assault
- Concern for human trafficking
- If pt age is < 17 years consider age of partner
- Patient has developmental delay
- Patient with known pregnancy

Evaluate symptoms and/or risk factors
to determine need for STI testing in pubescent patient
Private, confidential screening and documentation is recommended
Optional Screening questions

Pt presents **with** signs/symptoms of STI

OR asymptomatic with STI risk factors

OR requests STI testing

STI Testing
refer to Confidentiality Tips
1. Obtain verbal permission for testing from pt or caregiver
2. If confidential testing is requested:
   - Use confidential order set
   - Use protected provider note
   - Complete ***Confidential Information Form*** (found in orders or ad hoc)

Title X Sites should follow site-specific processes
STI testing is not routinely performed in the urgent care clinic should follow steps below if testing is completed

STI Signs & Symptoms:
Female
- Vaginal pruritus
- Vaginal discharge
- Inter-menstrual bleeding or menorrhagia
- Dysuria
- Urinary urgency/frequency
- Genital lesions - *Genital Lesions CPM*
- Abdominal/pelvic pain with no alternate diagnosis
- Cervical motion tenderness

Male
- Urethral discharge
- Unilateral testicular pain/swelling
- Dysuria
- Urinary urgency/frequency
- Painful ejaculation
- Genital lesions

STI Risk Factors:
- History of sexual activity
- Sexual assault
- Known or recent STI exposure
- Concern for pregnancy
- Concern for drug or alcohol use

Male

TESTING*
- **Gonorrhea and Chlamydia**
  PCR by first catch urine
- **Trichomoniasis** (symptomatic only)
  PCR by first catch urine
- **HIV**
  Antigen/Antibody Screen (blood)
- **Syphilis**
  Algorithm with reflex to RPR (blood)

Female

TESTING*
- **Gonorrhea and Chlamydia**
  PCR by either provider **OR** self-collected vaginal swab **OR** first catch urine
- **Trichomoniasis** (symptomatic only)
  PCR by provider collected vaginal swab **OR** first catch urine
- **HIV**
  Antigen/Antibody Screen (blood)
- **Syphilis**
  Algorithm with reflex to RPR (blood)

PCR by First Catch Urine
- No void during previous hour
- No genital cleaning
- 20-30 mL sample: *do not overfill*
- **DO NOT** order as add-on unless appropriate sample confirmed by lab

***Considerations for additional test sampling:**
- If testing for Gonorrhea and Chlamydia, test also for Trichomoniasis due to high prevalence in metro area
- Throat swab: Pharyngitis with sexual risk factors
- Anal/rectal swab: Sexual risk factors (e.g., MSM)

Emergency Contraception CPM

Are results available before discharge?

No
- Determine if empiric treatment is indicated while awaiting results
- If empiric treatment is **NOT** provided, must ensure ***Confidential Information Form*** is completed (found in orders or ad hoc) **AND** that pt has access to care
- Utilize setting-specific procedure for follow-up of pending labs
  - Pt lost to follow-up

Yes
- Complete treatment as indicated
- Provide patient STI education
- Complete ***confidential documentation***
- Provide condoms if supply is available
- Follow-up with specified healthcare provider

STI treatment

Abbreviations (laboratory & radiology excluded):
CPM = Care Process Model
MSM = men having sex with men
PCR = polymerase chain reaction
pt = patient
RPR = rapid plasma reagin
STI = sexually transmitted infection

QR code for mobile view

** These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly, these guidelines should guide care with the understanding that departures from them may be required at times.*

STI Treatment Algorithm

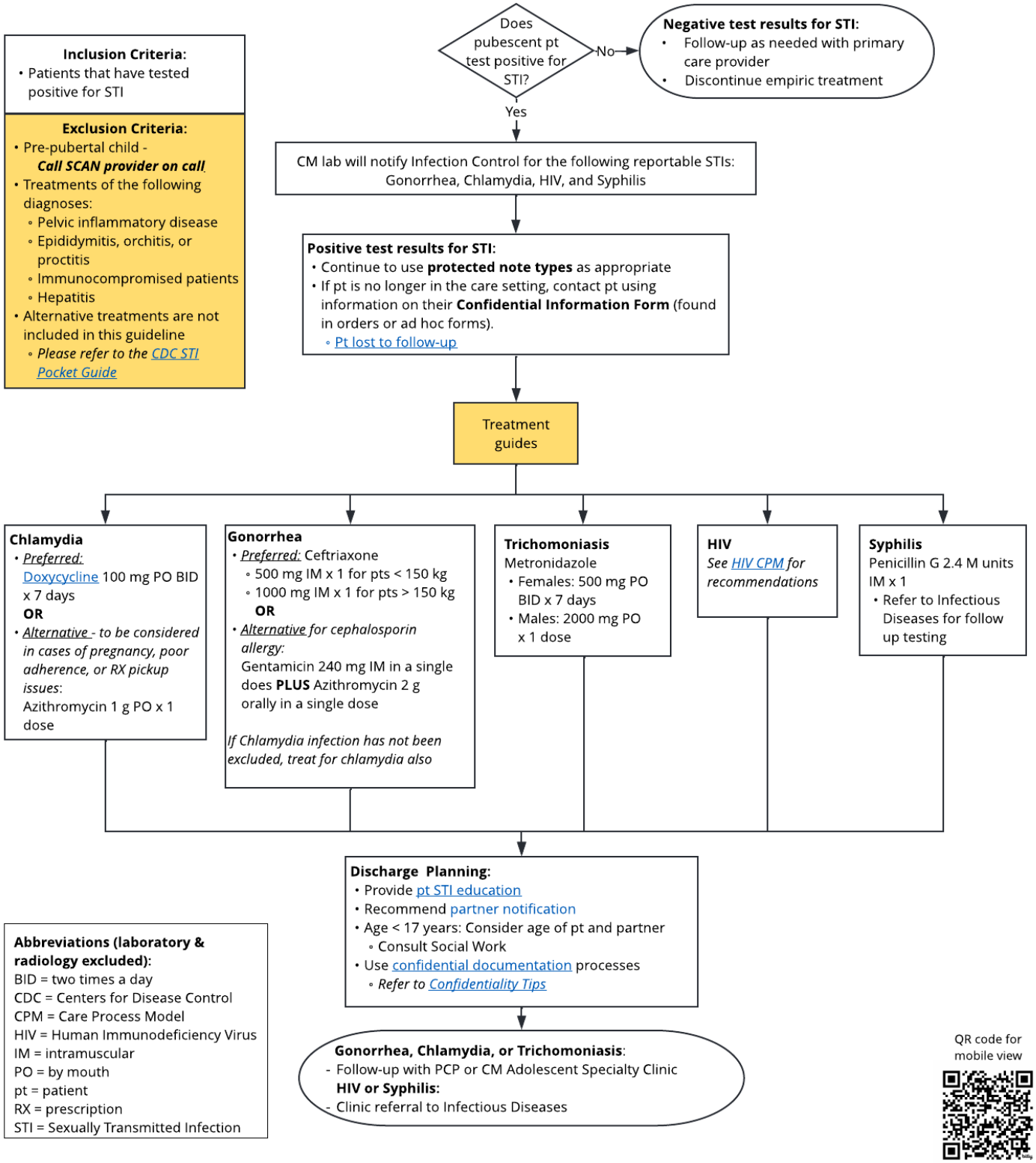

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Table of Contents

Guideline Objective

To provide care standards for the pubescent patient to support sexual health from screening to testing to intervention. This pathway will provide guidance to care providers through ambulatory and inpatient settings.

Background

Sexually transmitted diseases (STDs), or sexually transmitted infections (STIs), affect people of all ages, though trends suggest increased impact among adolescents (CDC, 2021). Of 26 million newly recorded cases of STIs occurring in the United States in 2018, nearly half (46%) were found to impact individuals between the ages of 15-24 (CDC, 2021). While many STIs are considered easily treated and curable if detected early, many adolescents are not seeking and, therefore, not receiving the high-quality sexual health care needed (Hogben & Leichliter, 2008; Miller et al., 2011; Wilson & Klein, 2000). Addressing adolescent sexual health care is vital to preventing STIs and complications from infections occurring in this population (Miller et al., 2019). To address adolescent sexual health care, factors to consider are provider and system-level barriers such as access to care, economic barriers, and geographical barriers (Miller et al., 2019). These factors contribute to the increased incidence of STIs among adolescents (Miller et al., 2019). Furthermore, a breakdown in early detection, diagnosis, and treatment of STIs can result in severe consequences for adolescents, which include chronic abdominal pain, infertility, or premature births (Howe, 2021). The STI Clinical Practice Guideline (CPG) serves to bridge the gap between addressing the concern of rising STI incidence among adolescents and intervention.

Definition

The CDC (2021) defines sexually transmitted infection (STI) as a pathogen that causes infection through sexual contact' and sexually transmitted disease (STD) as a disease state that developed because of an infection.'

Target Users

- Physicians (Ambulatory, Urgent Care, Emergency Department, Hospital Medicine, Fellows, Resident Physicians)
- Nurse Practitioners
- Nurses

Target Population

Guideline Inclusion Criteria

- Patients with signs and symptoms of STI
    - Female
        - Vaginal pruritus
        - Vaginal discharge
        - Intermenstrual bleeding or menorrhagia
        - Dysuria
        - Urinary urgency or frequency
        - Genital lesions
        - Abdominal or pelvic pain with no alternate diagnosis
        - Cervical motion tenderness
    - Male
        - Urethral discharge
        - Unilateral testicular pain or swelling
        - Dysuria
        - Urinary urgency or frequency
        - Painful ejaculation
        - Genital lesions
- Patients with risk factors for STI
    - History of sexual activity
    - Sexual assault
    - Known or recent STI exposure
    - Concern for pregnancy
    - Concern for drug or alcohol use
- Patient requests testing for STI

Guideline Exclusion Criteria

- Pre-pubertal child
  - ***Call the SCAN provider on call***
- Treatments of the following diagnoses are excluded from this guideline
  - Pelvic inflammatory disease
  - Epididymitis, orchitis, or proctitis
  - Immunocompromised patients
  - Hepatitis
- Alternative treatments are not included in this guideline
  - *Refer to the CDC STI Treatment Guidelines*

Special Considerations for STI Screening and Testing

Consult Social Work for the following scenarios:

- Concern for abuse/neglect (consult Social Work)
- Concern for human trafficking
- Patient aged < 17 years: consider age of partner
- Patients with developmental delay
- Known pregnancy

AGREE II

The CDC national guideline on sexually transmitted infections treatment provided guidance to the Sexually Transmitted Infections Committee (Workowski et.al., 2021). See Table 1 for AGREE II.

Table 1

AGREE II[a] Summary for the CDC Sexually Transmitted Infections Treatment Guideline

Domain	Percent Agreement	Percent Justification^
Scope and purpose	100%	The aim of the guideline, the clinical questions posed, and target populations **were** identified.
Stakeholder involvement	75%	The appropriate stakeholders developed the guideline and represented the views of its intended users. However, there was no discussion in the text about specific views or preferences outside of treatment preference once STI/STD has been diagnosed.
Rigor of development	76%	The process used to gather and synthesize the evidence, except for inclusion/exclusion criteria, and the methods to formulate the recommendations **were** explicitly stated. The guideline developers **did not** provide a process for updating the guideline.
Clarity and presentation	89%	The guideline recommendations **are** clear, unambiguous, and easily identified. In addition, different management options are presented.
Applicability	68%	The guideline addressed barriers and facilitators to implementation, strategies to improve utilization and resource implications. It **did not** mention any auditing or monitoring criteria.
Editorial independence	100%	Competing interests did not bias the recommendations.
Committee's recommendation for guideline use	Yes	This guideline contains detailed information developed by a large number of professionals and supported by a diligent and systematic review of the literature. It includes an overarching scope and is intended to guide providers in global STI practice.

Note: Four EBP Scholars completed the AGREE II on this guideline.

^Percentage justification is an interpretation based on the Children's Mercy EBP Department standards.

Practice Recommendations

Please refer to the CDC's Sexually Transmitted Infections and Treatment (Workowski et al., 2021) Clinical Practice Guideline for full practice recommendations, evaluation, and treatment recommendations. No deviations were made

from the CDC guidelines regarding practice recommendations, but logistical processes specific to Children's Mercy were added.

Additional Questions Posed by the CPG Committee
The Centers for Disease Control and Infection Prevention guideline provided guidance to the Sexually Transmitted Infection Clinical Practice Guideline Committee (See Table 1 for AGREE II). While Children's Mercy adopted most of these practice recommendations, the CDC guideline did not provide information on screening processes. With that in mind, the Children's Mercy STI CPG committee posed one additional question, leading to further clarifications in care:

1. In patients 14 – 21 years of age, does the use of a private screening questionnaire on a digital device versus an in-person provider interview increase the identification and/or treatment of sexually transmitted infections (STIs)?

Children's Mercy Practice Recommendations and Reasoning
Children's Mercy adopted the majority of the practice recommendations made by the CDC Clinical Practice Guideline. Additions include a conditional recommendation for the use of private STI screening via a digital device:

*A **conditional recommendation** is made for the use of STI screening on a digital device based on expert opinion and a review of current literature by the subject matter experts and the Department of EBP. While only a limited number of studies of low quality were available to review the process of implementing private STI screening on a digital device, the report provides guidance and direction to the STI CPG committee to enhance processes across the hospital system as well as adolescent sexual healthcare.*

Measures
- % of patients ≥ 14 years of age who undergo STI testing in each care setting (ED, Urgent Care, ambulatory clinics, inpatient General Pediatrics)
- % of patients who test positive for an STI who are provided with appropriate treatment and follow-up

Potential Cost/Value Implications
- Increased identification and treatment of STI
- Improved access to care for adolescents
- Decreased transmission of STI among adolescents
- Early identification of patients at risk for abuse
- Decreased unwarranted variation in care
- Decrease potential inequities in care based on gender, race, ethnicity, or sexual orientation

Potential Organizational Barriers and Facilitators
Potential Barriers
- Challenges with follow-up faced by some patients and families
- Variability of screening processes among different care settings
- Variable knowledge of evidence-based recommendations among providers
- Challenges related to poor medication adherence by patients

Potential Facilitators
- Collaborative engagement across care continuum settings during CPG development
- High rate of use of CPG
- Standardized order set for Urgent Care Clinic, Emergency Department, Hospital Medicine, and Specialty Care Clinics
- Processes to maintain patient confidentiality
- Access to patient education materials
- Engagement with the Children's Mercy Teen Advisory Board

Power Plans

- ED: EDP STI CPG
- Inpatient: Inpatient STI CPG
- Ambulatory:
    - Teen Ambulatory STI and Title X
    - Teen Ambulatory STI Positive
    - Ambulatory STI CPG

Associated Policies

- Treatment of Sexually Transmitted Infection

Guideline Preparation

This guideline was prepared by the Evidence Based Practice (EBP) Department in collaboration with the Sexually Transmitted Infections CPG Committee composed of content experts at Children's Mercy Kansas City. The development of this guideline supports the Quality Excellence and Safety initiative to promote care standardization that is evidenced by measured outcomes. If a conflict of interest is identified, the conflict will be disclosed next to the committee member's name.

Sexually Transmitted Infections CPG Committee Members and Representation

- Diane Petrie, FNP-BC, AAHIVS, CPN | Infectious Diseases | Committee Chair
- Amanda Nedved, MD | Urgent Care | Committee Member
- Neena Kanwar, PhD | Clinical Pathology | Committee Member
- Abbey Masonbrink, MD, MPH | Hospital Medicine | Committee Member
- Gladesia Tolbert, DNP, CPNP, PMHS | General Pediatrics - TEEN Clinic | Committee Member
- Alaina Burns, PharmD, BCPPS | Pharmacy | Committee Member
- Rangaraj Selvarangan, BVSc, PhD, D(ABMM), FIDSA, F(AMM) | Committee Member
- Melissa A Smith, APRN | Emergency Medicine | Committee Member
- Katie Stangler, RN, MSN, APRN, CPNP, CCRN | Emergency Medicine | Committee Member
- Debbie Jaklevic, MSN, APRN, FNP-C, CPN | Adolescent Medicine | Committee Member

Patient/Family Committee Member

- Teen Advisory Board | Committee Member

MIT Committee Members

- George Abraham, MD | Emergency Medicine, Medical Informatics
- Ashly Catalino | Medical Informatics - Ambulatory
- Tammy Frank, RPh, CPHIMS | Medical Informatics - Pharmacy
- Brandan Kennedy, MD | Hospital Medicine, Human Factors Collaborative, Medical Informatics
- Amber Lanning | Medical Informatics – general inpatient
- Tracy Taylor | Medical Informatics – ED, UCC

EBP Committee Members

- Kathleen Berg, MD, FAAP | Hospitalist, Evidence Based Practice
- Andrea Melanson, OTD, OTR/L | Evidence Based Practice

Additional Review & Feedback

- The CPG was presented to each division or department represented on the CPG committee as well as other appropriate stakeholders. Feedback was incorporated into the final product.
- An internal reviewer reviewed the CPG using the AGREE II instrument (see Appendix A).

Implementation & Follow-Up

- Power plans consistent with CPG recommendations were created for the ED/UCC and inpatient care settings; the outpatient care settings for TEEN and Adolescent Clinics power plans are in place and did not require any updates.
- Education was provided to all stakeholders:

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Nursing units where the STI CPG is used
Emergency Department and Urgent Care Clinics
Providers from TEEN, Adolescent Clinics, Infectious Diseases, and Hospital medicine
Resident physicians
Pharmacy and Clinical Pathology

- Additional institution-wide announcements were made via email, the hospital website, and relevant huddles.
- Metrics will be assessed and shared with appropriate care teams to determine if changes need to occur.

Guideline Development Funding
The development of this guideline was underwritten by the following departments/divisions: Infectious Adolescent Medicine, General Pediatrics—TEEN clinic, Infectious Diseases, Emergency Medicine, Urgent Care, Pharmacy, Clinical Pathology, and Evidence Based Practice.

Approval Process
This guideline was reviewed and approved by the STI CPG Committee, Content Expert Departments/Divisions, and the EBP Department, after which it was approved by the Medical Executive Committee. Guidelines are reviewed and updated as necessary every three years within the EBP Department at CMKC. Content expert teams are involved with every review and update.

Approval Obtained

Department/Unit	Date Approved
Infectious Diseases	**October 2022**
Adolescent Medicine	**November 2022**
General Pediatrics – TEEN clinic	**November 2022**
Emergency Medicine	**November 2022**
Urgent Care	**November 2022**
Pharmacy	**October 2022**
Clinical Pathology	**November 2022**
Hospital Medicine	**November 2022**
Medical Executive Committee	

Version History

Date	Comments
November 2022	Version one
October 2024	Version two: added confidentiality tips document to algorithms

Date for Next Review
- November 2025

Disclaimer
When evidence is lacking or inconclusive, the guideline and the accompanying power plans provide care options.

These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those individuals involved in providing health care are expected to use their judgment to determine what is in the best interests of the patient based on the circumstances existing at the time.

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Appendix A: AGREE II Assessment for Children's Mercy Hospital's STI CPG

*AGREE II Summary for this Clinical Practice Guideline**

Domain	Percent Agreement
Scope and purpose	98%
Stakeholder involvement	98%
Rigor of development	83%
Clarity and presentation	100%
Applicability	68%
Editorial independence	78%
Reviewer's recommendation for guideline use	Adopt the utilization of this guideline

**Note:* This assessment reflects the views obtained from two internal clinicians.