



Clinical Guideline | Microhematuria

SUMMARY OF CLINICAL GUIDELINE	
Disease or Condition	Asymptomatic Microhematuria (AMH)
Guideline Title:	Diagnosis, Evaluation and Follow-up of Asymptomatic Microhematuria (AMH) in Adults (2016)
Guideline Source:	American Urological Association
Guideline Link	https://www.auanet.org/guidelines/asymptomatic-microhematuria-(amh)-guideline
Guideline Original Date	2012
Guideline Most Recent Revision Date	2016
CHC Review Date(s)	April 2019
Guideline Summary	<p>Definition: Microhematuria is defined as three or greater red blood cells per high powered field on a properly collected urinary specimen.</p> <p>Screening: A positive dipstick reading is <u>not</u> considered microhematuria. A positive dipstick reading needs microscopic examination to confirm diagnosis of microhematuria. Once microhematuria diagnosis has been established, the patient needs further assessment.</p> <p>Assessment: Conduct a detailed history and physical</p> <p>Assessment questions to consider: Is the patient asymptomatic or symptomatic (irritative voiding symptoms, painful urination, flank/abdominal pain).</p> <p>Benign causes of microhematuria include infection, menstruation, vigorous exercise, medical renal disease, trauma, recent urological procedures.</p> <p><i>Once benign causes have been ruled out, the presence of asymptomatic microhematuria should prompt a urologic evaluation</i></p> <p>Labs to consider: -renal function test Cr, GFR. -consider urine culture.</p>

These guidelines are provided only as “guides” or assistance for physicians making clinical decisions regarding the care of their patients and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians’ judgment. As such, they cannot substitute the individual judgment brought to each clinical situation by the patient’s physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.



Clinical Guideline | **Microhematuria**

<p>Implementation Components Identify component(s) of the guideline CHC should adopt.</p>	<ul style="list-style-type: none"> <i>The assessment of the asymptomatic microhematuria patient should include a careful history, physical examination, and laboratory examination to rule out causes of AMH such as infection, menstruation, vigorous exercise, medical renal disease, viral illness, trauma, or recent urological procedures.</i> <i>Once benign causes have been ruled out, the presence of asymptomatic microhematuria should prompt a urologic evaluation.</i>
<p>Rationale</p>	<p>Confirming microhematuria with microscopic examination and ruling out benign causes through a detailed history and physical can prevent unnecessary testing and procedures.</p>
<p>Recommendations/ Other Considerations</p>	<p>Possible causes: Origins of microhematuria are either nephrologic or urologic. The most common urological etiologies are BPH, infection and urinary stones.</p> <p>The presence of urinary casts, proteins and/or dysmorphic red blood cells suggest medical renal etiology.</p> <p>Nephropathies and nephritis are the most common causes of nephrologic hematuria. This may be immunological, infectious or drug-induced.</p> <p>Age and risk factor considerations: <i>For the urologic evaluation of asymptomatic microhematuria, a cystoscopy should be performed on all patients aged 35 years and older.</i> <i>In patients younger than age 35 years, cystoscopy may be performed at the physician's discretion.</i> <i>A cystoscopy should be performed on all patients who present with risk factors for urinary tract malignancies (e.g., irritative voiding symptoms, current or past tobacco use, chemical exposures)</i></p> <p>Methods of evaluation: Urological workup includes upper tract study and cystoscopy. Upper tract study #1 CT scan with and without IV contrast with delayed phase to evaluate the urothelium of upper tracts.</p>

These guidelines are provided only as “guides” or assistance for physicians making clinical decisions regarding the care of their patients and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians’ judgment. As such, they cannot substitute the individual judgment brought to each clinical situation by the patient’s physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.



Clinical Guideline | **Microhematuria**

CT Scan- highest sensitivity and specificity

If there is a relative or absolute contraindication for CT scan such as renal insuff, contrast allergy, pregnancy, MRI with and without contrast can be done, however if collecting system detail is necessary, MRI with and without can be used with retrograde pyelograms.

Cannot have CT scan or MRI:

Do CT scan without contrast or Renal Ultrasound with retrograde pyelograms.

Urine cytology is not indicated for routine evaluation of microhematuria.

Persistent microhematuria:

If a patient has persistent microhematuria following a negative w/u or risk for CIS (irritative voiding symptoms, history of tobacco use, chemical exposures) urine cytology may be useful.

Microhematuria in patient taking anticoagulants requires urological evaluation. The type or level of anticoagulation does not matter.

Common risk factors for urinary tract pathology/malignancy

- Male gender
- Age (> 35 years)
- Past or current smoking
- Occupational or other exposure to chemicals or dyes (benzenes or aromatic amines)
- Analgesic abuse
- History of gross hematuria
- History of urologic disorder or disease
- History of irritative voiding symptoms
- History of pelvic irradiation
- History of chronic urinary tract infection
- History of exposure to known carcinogenic agents or chemotherapy such as alkylating agents
- History of chronic indwelling foreign body

These guidelines are provided only as “guides” or assistance for physicians making clinical decisions regarding the care of their patients and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians' judgment. As such, they cannot substitute the individual judgment brought to each clinical situation by the patient's physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.



Clinical Guideline | Microhematuria

	<p>Follow-up intervals:</p> <p><i>If a patient with a history of persistent asymptomatic microhematuria has two consecutive negative annual urinalyses (one per year for two years from the time of initial evaluation or beyond), then no further urinalyses for the purpose of evaluation of AMH are necessary.</i></p> <p><i>For persistent asymptomatic microhematuria after negative urologic work up, yearly urinalyses should be conducted.</i></p> <p><i>For persistent or recurrent asymptomatic microhematuria after initial negative urologic work-up, repeat evaluation within three to five years should be considered.</i></p>
CHC Adoption and Implementation Resources	<p>American Urologic Association Algorithm</p> <ul style="list-style-type: none"> • https://www.auanet.org/guidelines/asymptomatic-microhematuria-(amh)-guideline#x523
Other Supplemental Documents (to support guideline adoption/education)	NA
Quality Measures and Associated Programs Related CHC and ACO quality measures	NA
Strategies to Improve Performance	<ul style="list-style-type: none"> • Educate clinical staff about the need for microscopic examination after positive dipstick results before ordering more costly and invasive tests • Educate staff to possible benign causes of asymptomatic microhematuria • Always conduct and revisit questions and answers from the detailed history and physical examination
Coding and Documentation Tips	NA
HCC Coding and Documentation Tips	NA

These guidelines are provided only as “guides” or assistance for physicians making clinical decisions regarding the care of their patients and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians’ judgment. As such, they cannot substitute the individual judgment brought to each clinical situation by the patient’s physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.



Clinical Guideline | Microhematuria

CHC Microhematuria Clinical Guideline Workgroup	<ul style="list-style-type: none">• Antonio Mancini, D.O.• James Draguesku, M.D.
Misc. References	<p>Diagnosis, Evaluation and Follow-up of Asymptomatic Microhematuria (AMH) in Adults (2016).</p> <p>Rodney Davis, J. Stephen Jones, Daniel A. Barocas, Erik P. Castle, Erick K. Lang, Raymond J. Leveillee, Edward M. Messing, Scott D. Miller, Andrew C. Peterson, Thomas M.T. Turk, William Weitzel https://www.auanet.org/guidelines/asymptomatic-microhematuria-(amh)-guideline#x523</p> <p><i>Assessment of Asymptomatic Microscopic Hematuria in Adults (2013)</i> <i>American Family Physician</i> VICTORIA J. SHARP, MD, MBA; KERRI T. BARNES, MD, MPH; and BRADLEY A. ERICKSON, MD, MS, University of Iowa Hospitals and Clinics, Iowa City, Iowa <i>Am Fam Physician.</i> 2013 Dec 1;88(11):747-754. https://www.aafp.org/afp/2013/1201/p747.html</p>

These guidelines are provided only as “guides” or assistance for physicians making clinical decisions regarding the care of their patients and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians’ judgment. As such, they cannot substitute the individual judgment brought to each clinical situation by the patient’s physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.