Client: HMSA: PQSR 2007

Measure Title: AVOIDANCE OF PREOPERATIVE URINALYSIS FOR PATIENTS UNDERGOING SURGERY

Disease State: Pre-operative medical evaluation

Indicator Classification: Utilization

Strength of Recommendation: B

Clinical Intent: To ensure that eligible members undergoing non-obstetrical surgery do not receive a preoperative urinalysis.

Physician Specialties (suggested): Refer to PQSR 2007 Specialty Matrix

Clinical Rationale: Disease Burden

- Prior to surgery, evaluation of a patient to assess risk of surgical complication is commonplace.
- However, the prevalence of unrecognized disease in very low in healthy patients and many laboratory tests are performed out of habit and medicolegal concern.[1] For example, in a study of 2000 patients undergoing elective surgery, 60% of routine preoperative tests were ordered with no indication and only 0.22% of these tests revealed abnormalities that would affect surgical decisions.[2]

Reason for Indicated Intervention or Treatment

- Physicians often order a preoperative urinalysis with the belief that the detection and elimination of a urinary tract infection decreases the risk of a surgical wound infection. They also may order the test to screen for underlying disease. Evidence indicates, however, that preoperative urinalysis is both cost-ineffective and of little utility in healthy patients.[2-7]

Evidence supporting Intervention or Treatment

- Importantly, no controlled trials have been published in this field. All available evidence reports the results of case-series.[6]
- In one study, of 200 clean-wound, orthopedic, nonprosthetic knee procedures, no difference in the rate of wound infections was detectable between those patients with abnormal and normal urinalysis test results. And although urinalysis was uniformly ordered resulting in a high prevalence of abnormal results (15%), physician-response was low to these results (29%).[3]
- Furthermore, a cost-effectiveness study of clean-wound knee procedures found that 4.58 annual wound infections could be prevented in this population using urinalysis at a cost of $1.5 million each leading the authors to conclude that it is 500 times more cost-effective to treat the cases of wound infection than to administer preoperative urinalysis.[4]
- In a retrospective study of 299 patients undergoing knee or hip arthroplasty, no correlation between asymptomatic bacteriuria and surgical infection was found.[5]
- In a systematic review of 6,740 urinalyses prior to surgical procedures in the areas ranging from orthopedics, cardiology, ENT, ophthalmology,
neurosurgery, plastic surgery, urology, and general surgery, routine preoperative urinalysis was shown to produce abnormal results in 1–34.1% of patients but led to a change of management in 0.1–2.8% of patients. These data prompted the study’s authors to conclude that there is little or no apparent value in routine preoperative urinalysis as an opportunistic screening test for unrelated disease.[6]

- Finally, because preoperative testing in healthy patients can often lead to abnormal results that are not acted upon, these tests can increase medico-legal risk, not reduce it.[2]

Clinical Recommendations
- The American Society for Gastrointestinal Endoscopy does not recommend urinalysis prior to endoscopic procedures citing that there is no evidence to suggest that this would improve postoperative outcomes.[8]
- The American Society of Colon and Rectal Surgeons assert that urinalysis is contraindicated unless history and physical examination reveal a condition for which urinalysis is indicated. The ASCRS 2005 update states that “Before utilizing any specific risk assessment tools, a careful history, review of systems, and physical examination should be obtained” [9, 10]
- The University Hospital of Cleveland note in their guidelines that urinalysis should never be performed preoperatively.[11]
- The American Society of Anesthesiologists lists urinalysis as a test which can be performed preoperatively, but this decision is incumbent on physician discretion. The guidelines state: “Routine preoperative tests (i.e., tests intended to discover a disease or disorder in an asymptomatic patient) do not make an important contribution to the process of perioperative assessment and management of the patient by the anesthesiologist” [13]
- The Institute for Clinical Systems Improvement Guideline for Preoperative Evaluation does not recommend preoperative urinalysis and emphasizes that in most cases patients do not require preoperative testing if they are without acute illness or unstable illness. [14]

Source
Health Benchmarks, Inc.

Denominator
Continuously enrolled members ages 66 years or younger by the end of the measurement year who underwent a non-obstetrical surgery.

Relevant Billing Codes:

ICD-9 status “V” code(s): V72.81-V72.84

CPT-4 code(s): 00100-01953, 01991-01999

Denominator Exclusion
Members with conditions requiring a urinalysis: Any disease or infection of the genitourinary system, complicating conditions for which a urinalysis may be indicated (diabetes mellitus, coagulation defects, hypertensive renal disease, secondary hypertension, diffuse diseases of the connective tissue, arthropathy associated with infections, disorders of muscle, ligament, and fascia, acute osteomyelitis, trauma), pregnancy, complicating diagnoses (paralysis, multiple sclerosis, immunosuppression), urinary tract instrumentation, alteration of consciousness, symptoms involving the urinary system, or a diagnosis of a sexually transmitted disease.
Relevant Billing Codes:

ICD-9 diagnosis code(s): 016.xx, 042.xx, 054.1, 078.11, 078.88, 079.53, 079.88, 079.98, 091.xx - 097.xx, 098.xx, 099.4x, 099.53-099.55, 131.xx, 250.xx, 279.xx, 286.xx, 340.xx, 341.xx, 342.xx, 343.xx, 344.xx, 403.xx, 405.xx, 580.xx-587.xx, 588.1x, 589.xx-599.xx, 601.xx, 604.xx, 625.9, 630.xx-677.xx, 710.xx, 711.xx, 728.xx, 730.xx, 780.0x, 780.6x, 780.7x, 788.xx, 789.xx, 795.71, E800.x-E999.x

ICD-9 status “V” code(s): V01.6x, V02.7, V02.8x, V08.xx, V22.xx, V23.xx, V24.xx, V27.xx, V28.xx, V73.8, V73.88, V73.98, V74.5x

ICD-9 surgical procedural code(s): 66.62, 69.0x, 72.xx-75.xx

CPT-4 codes: 50600-52355, 53000-53899, 59000, 59001, 59012, 59015, 59020, 59025, 59030, 59050, 59051, 59070, 59072, 59074, 59076, 59100, 59120, 59121, 59130, 59135, 59136, 59140, 59150, 59151, 59160, 59200, 59300, 59320, 59325, 59350, 59400, 59409, 59410, 59412, 59414, 59425, 59426, 59430, 59510, 59514, 59515, 59525, 59610, 59612, 59614, 59618, 59620, 59622, 59812, 59820, 59821, 59830, 59840, 59841, 59850-59852, 59855-59857, 59866, 59870, 59871, 59897-59899, 76801, 76802, 76805, 76810-76812, 76815-76819, 76825-76828, 76941, 76945, 76946, 80055, 82105, 82106, 82143, 82731, 88235, 88267, 88269

Numerator: Members who did NOT have a urinalysis in any setting in the 0-21 days prior to the index date.

Relevant Billing Codes:

CPT-4 code(s): 81000, 81001, 81005, 81007, 81002, 81003, 81015

Interpretation of Score: High score implies better performance

Physician Attribution: Score all physicians (in the selected specialties) who saw the member in the 0-21 days prior to the index date.

References:

1. Smetana, G., Preoperative medical evaluation of the healthy patient, in UptoDate, B.D. Rose, Editor. 2005, UpToDate: Waltham, MA.


**Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).</td>
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<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
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Strength of Recommendation Based on a Body of Evidence

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)