Benign Prostatic Hyperplasia Algorithm
Please review definition and pathophysiology when using the algorithm

Assess for the presence of risk factors, both major and minor or contributing
- not well understood
- increase incidence with age
- more likely to occur in men whose fathers or brothers experienced prostate enlargement.
- BPH occurs in nearly all men over time, as long as they have testes


YES
Digital rectal exam and PSA level/LUTS symptom questionnaire

Are risk factors present?

NO
Initiate client education for Health Seeking Behaviors to identify:
- BPH is likely to occur in all men over time
- Teach s/s of LUTS to report
- Encourage DRE when prostate cancer screening is required according to risk profile
- Discuss s/s to report

Monitor for presence of signs/symptoms:
- a hesitant, interrupted, weak stream
- urgency and leaking or dribbling
- more frequent urination, especially at night
- s/s of acute urinary retention, infection and renal insufficiency as disorder progresses

Initiate the plan of care for a Risk for Ineffective Therapeutic Regimen management:
- Discuss course and progression of disease and its management
- Review diagnostic testing to rule out Prostatic cancer, TRUS, PSA testing and testing to identify urine flow limitations and its complications; urine flow study and cystoscopy
- Discuss complications of infection, retention and renal failure, their signs and symptoms and diagnostic testing; urinalysis, culture, protein, BUN/creatinine, GFR, radiographic exam; ultrasound, CT
- Review treatment strategies; medication therapy to reduce prostate size and increase urine flow, minimally invasive procedures and surgery such as TURP
- If surgery is performed; teach client to drink a lot of water to flush the bladder, avoid straining when having a bowel movement & eat a balanced diet to prevent constipation. avoid any heavy lifting & not to drive or operate machinery. Instruct client to report sexual dysfunction, refractory incontinence and return of bleeding with clots.

Negative?
Are positive findings present?

Potentially unstable?

Newly diagnosed?

Follow collaborative plan of care for a client with BPH/PC: Bladder outlet obstruction
See UTI/bladder stones plan of care
See renal failure algorithm
Surgical care algorithm
**Collaborative Problem**

**OUTCOMES/BENCHMARKS:**
No bladder pain or spasms, no anuria, nocturia and polyuria
No bladder distention, no hydroureret/hydronephrosis, no s/s of renal failure/urosepsis, hemorrhage, post-obstructive diuresis, hyperkalemia or hypovolemia

<table>
<thead>
<tr>
<th>Potential Complication:</th>
<th>Bladder outlet obstruction</th>
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<tbody>
<tr>
<td><strong>ASSESS s/s of Bladder outlet obstruction</strong></td>
<td><strong>Monitor for presence of Bladder outlet obstruction</strong></td>
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<tr>
<td>- frequency, urgency, hesitancy, dribbling, decrease in voiding stream, the need to double void</td>
<td>Monitor urinalysis for Hematuria</td>
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<tr>
<td>- Change in urine pattern and stream characterized by decreased urine output vs. nocturia and polyuria is certain cases</td>
<td>Strain urine for bladder calculi</td>
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<tr>
<td>- Associated bladder pain and spasms</td>
<td>Assess urinary catheter output for clots</td>
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<tr>
<td>- Distended bladder that is dull to percussion</td>
<td>Monitor reports from IVP, cystoscopy, ultrasound and CT examinations</td>
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**Assess for contributing factors:**
- Bladder stones
- Recent surgery
- Blood clots disrupting Continuous Bladder irrigation
- Enlarging prostate
- Developing neoplasm of prostate
- Change in urine pattern and stream characterized by decreased urine output vs. nocturia and polyuria
- Associated bladder pain and spasms
- Distended bladder that is dull to percussion

**Monitor for presence of Bladder outlet obstruction**
- Monitor urinalysis for Hematuria
- Strain urine for bladder calculi
- Assess urinary catheter output for clots
- Monitor reports from IVP, cystoscopy, ultrasound and CT examinations
- Initiate I/O if CBI in use calculate urine output (CBI in – CBI out)
- Monitor CBC for baseline Hgb and Hct and bleeding times before invasive procedures such as TURP or Cystotomy

**Additional assessment includes monitoring from presence of complications**
- Monitor urinalysis for s/s of infection & protein
- Monitor BMP for hyperkalemia
- Monitor BMP for rising BUN/Creatinine and declining GFR indicating post-renal failure
- Monitor PSA levels and TRUS reports for developing malignancy
- Monitor reports of renal ultrasound to evaluate for hydronephrosis and hydroureter

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<th>DO</th>
<th>CALL</th>
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<tr>
<td>Perform nursing actions that minimize retention</td>
<td>Call MD for suspected obstruction that remains uncorrected, leading to urinary retention. If CBI is in use, stop irrigant inflow and call MD.</td>
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<tr>
<td>Attempt Foley catheter insertion, if unsuccessful call MD and assist in catheter placement or insertion cystotomy tube as indicated</td>
<td>Call MD for renal failure, infection, post-obstructive diuresis, bladder hemorrhage if noted</td>
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<tr>
<td>Monitor post void residual urine and complications from rapid decompression such as hypotension</td>
<td>If present, ensure adequate ABCs, provide supportive care and contact ready response team and MD</td>
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<td>Irrigate catheter as ordered for blood clots when present</td>
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<tr>
<td>Initiate Continuous bladder irrigation as prescribed if clots are present to ensure urine outflow is clear (frequently prescribed in post-surgical client)</td>
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<td>If bright red blood is noted, increase flow of irrigant and call MD</td>
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<td>If abrupt decrease in urine output is noted, stop CBI, assess for retention and correct kinks in catheter, if present. Manual irrigation may be indicated and should be performed as ordered. Ensure obstruction is corrected before re-instituting CBI. Make sure traction to 3 way urinary catheters is applied as ordered to reduce bleeding when CBI is in progress in the post-surgical client</td>
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<tr>
<td>Administer alpha1 antagonists as prescribed to improve bladder outlet</td>
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<td>Administer analgesics for pain and spasms as ordered</td>
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<td>Ensure adequate hydration</td>
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<td>Performs nursing actions to control contributing factors/complications</td>
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<td>Prevent constipation, treat infections and replace losses if diuresis is noted</td>
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