

Recommendations from the EAU Urolithiasis Guidelines Panel applicable during the COVID-19 pandemic

| Diagnosis | | | | |
|---|--|---|---|--|
| Priority category | Low Priority | Intermediate Priority | High priority | Emergency |
| Definition | Clinical harm very unlikely if postponed 6 months | Clinical harm possible if postponed 3-4 months but unlikely | Clinical harm very likely if postponed > 6 weeks | Life threatening situation |
| COVID-recommendations | | | | |
| Acute flank pain - Imaging | | | Ultrasound (US) followed by non-contrast enhanced computer tomography (NCCT) weighting clinical situation and US findings; alternative Kidney-Ureter-Bladder (KUB) radiography (in known radiopaque stone formers). | <ul style="list-style-type: none"> • US, followed by NCCT with fever, suspected urosepsis or solitary kidney, and when diagnosis is doubtful. • When uncertain cause Thorax/Abdomen/Pelvic computed tomography scan (to rule out Covid-19 pneumonia at the same time). |
| Acute flank pain - Laboratory examinations | | | <ul style="list-style-type: none"> • Spot urine dipstick, infection possible → urinary culture. • Blood tests depending on clinical situation and imaging findings. | <ul style="list-style-type: none"> • Spot urine dipstick-test and urine culture. • With fever basic blood test incl. coagulation-test. • Covid-19 swap or screening (as per local / national requirements) |
| Suspected asymptomatic renal stone (US) - Imaging | Small stone/lower pole: NCCT / Kidney-Ureter-Bladder radiography, and/or contrast study if stone removal is planned. | Large stone burden, risk of obstruction or with dilatation at US: NCCT. | | |

| | | | | |
|--|---|---|--|--|
| Metabolic evaluation | Perform stone analysis in first-time stone formers using a valid procedure. Postpone complete metabolic evaluation. | | | |
| General considerations | | | | |
| Any diagnostic measures with low or intermediate priority must be balanced with the potential therapeutic consequence and risk of Covid-19 transmission. | | | | |
| Treatment | | | | |
| Priority category | Low Priority | Intermediate Priority | High priority | Emergency |
| Definition | Clinical harm very unlikely if postponed > 6 months | Clinical harm possible if postponed 3-4 months but unlikely | Clinical harm very likely if postponed > 6 weeks | Life threatening situation |
| COVID-recommendations | | | | |
| Sepsis due to obstructing stones, anuria | | | | Urgent decompression of the collecting system (PCN or stent*). |
| Renal insufficiency (renal failure, bilateral obstruction, solitary kidney). | | | | Urgent decompression or endourologic stone removal. |
| Acute flank pain | | | | Pain relief (see general considerations below). |
| Obstructing / symptomatic ureteral stone not suitable for MET | | | Interventional treatment (<i>in situ</i> - SWL, URS or decompression*). | |
| Non-obstructing ureteral stone | | <ul style="list-style-type: none"> • Medical expulsive therapy. • Interventional stone removal or JJ placement. | | |
| Renal stones causing intermittent obstruction | | Interventional stone removal or JJ placement. | | |
| Renal stone with recurrent infection and obstruction, | | | First decompression, than interventional stone removal | |

| | | | | |
|--|--|---|-----------------------|--|
| partial or complete staghorn stones | | | as early as possible. | |
| Others, asymptomatic / oligosymptomatic renal stones | Interventional stone removal. | | | |
| Indwelling DJ-stent due to stone | No/low JJ morbidity: Interventional stone removal as soon as situation allows. | Pain/Symptoms due to JJ: patients should receive higher priority. | | |
| Notes | | | | |
| *Choice of decompression must include consideration of the possibilities for outside procedures or at bedside, with use of local anaesthesia thus avoiding the necessity of admission to the ward and involvement of an anaesthetist, sparing ventilators AND considerations on future therapeutic time lines for definitive stone treatment during pandemic. Stents might be preferred due to high risk of accidentally removing/dislodging a pcN and possible long-wait until definitive stone treatment can be carried out. In the short-term, preferably use stents with a string for self-removal in order to reduce outpatient visits. | | | | |
| General considerations | | | | |
| Acute treatment of a patient with renal colic | | | | |
| <ol style="list-style-type: none"> 1) In principle, the same considerations as mentioned in the EAU-Guidelines on Urolithiasis apply, in particular immediate pain relief in patients with an acute stone episode. However, some evidence exists of a link between NSAIDs (Ibuprofen) and both respiratory and cardiovascular adverse effects in several settings, but so far the causality remains unclear. However, the WHO has recommended to avoid the application of ibuprofen when possible. Metamizol seems to be a good alternative in acute renal colic [1, 2]. 2) Renal decompression in case of analgesic refractory colic pain or threatening urosepsis are emergency procedures and shall be performed as soon as the local situation allows [3]. | | | | |
| Medical expulsive therapy (MET) and Chemolysis | | | | |
| <ol style="list-style-type: none"> 3) In the situation of an infectious pandemic like SARS CoV2 these therapeutic options become more important as a potential way of avoiding surgical interventions. | | | | |
| References | | | | |
| <ol style="list-style-type: none"> 1. Little P. Non-steroidal anti-inflammatory drugs and covid-19. British Medical Journal Publishing Group; 2020. 2. Sodhi M, Etminan M. Safety of Ibuprofen in Patients with COVID-19; Causal or Confounded? Chest. 2020. 3. Stensland K, Morgan T, Moinzadeh A, Lee C, Briganti A, Catto J, et al. Considerations in the Triage of Urologic Surgeries During the COVID- | | | | |