

SUPPLEMENTARY APPENDIX 10: Supplementary Figures

2020 American College of Rheumatology Guideline for the Management of Gout

Supplementary Figure 1: Indications for pharmacological urate-lowering therapy (ULT)





For patients with any of the following characteristics, we recommend initiating ULT:

<ul style="list-style-type: none">• One or more subcutaneous tophi• Radiographic damage (any modality) due to gout• Gout inflammatory activity as defined by		
Frequent gout flares (≥ 2 flares/year)	Infrequent flares (< 2 flares/year)	First flare in presence of CKD ≥ 3 , SU > 9 mg/dL or urolithiasis

For the following patients,
we recommend against initiating ULT:

<ul style="list-style-type: none">• Asymptomatic Hyperuricemia	First flare in the absence of above conditions
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Legend: ULT = Urate Lowering Therapy, CKD = Chronic Kidney Disease, SU = serum urate, Asymptomatic Hyperuricemia = Serum urate > 6.8 mg/dL with no prior gout flares or subcutaneous tophi.

LEGEND	
	Strongly recommend
	Conditionally recommend
	Conditionally recommend against
	Strongly recommend against

Supplementary Figure 2: General Management of Urate Lowering Therapy

Choice of first-line ULT agent

- For all patients (including those with CKD ≥ 3), allopurinol is preferred first-line therapy
- For patients with CKD ≥ 3 , XO1 preferred over probenecid
- Pegloticase should not be a first-line agent

For those starting ULT

- Start with low dose and titrate up to target for both XO1 & probenecid
- Use anti-inflammatory prophylaxis for 3-6 months and longer if persistent active inflammatory disease
- For patients who present to their provider with an indication for ULT during a gout flare, ULT may be started during a flare rather than waiting until flare has resolved.

For all patients on ULT

- Use Treat-to-Target strategy that includes ULT dose titration to achieve and maintain SU target
- SU target < 6 mg/dL (lower targets may be considered for patients with advanced disease)
- Continue ULT indefinitely
- Augmented protocol of ULT dose management to include patient education, shared decision-making, and treat-to-target protocol that can be delivered by allied health (e.g. nurse, pharmacist) providers where available

First XO1 failure (SU > 6 and ongoing inflammatory/tophaceous disease despite maximum tolerated or FDA indicated dose)

Switch to 2nd XO1 over adding a uricosuric agent.

XO1, uricosuric failures (SU > 6 and ongoing inflammatory/tophaceous disease despite maximum tolerated or FDA indicated dose)





with frequent flares or non-resolving tophi

Switch to pegloticase

with infrequent flares and no tophi

Against switching to pegloticase

Legend: ULT = Urate Lowering Therapy, CKD = Chronic Kidney Disease, XO1 = Xanthine Oxidase Inhibitor, SU = serum urate

LEGEND	
	Strongly recommend
	Conditionally recommend
	Conditionally recommend against
	Strongly recommend against

Supplementary Figure 3: Recommendations for patients on specific ULT medications

Allopurinol

- Prior to starting allopurinol, test for HLA-B*5801 among Southeast Asian patients (e.g. Han Chinese, Korean, Thai) African-American patients
- Against testing for all others patients
- Start ≤ 100 mg per day (and lower in patients with CKD)*
- For patients with allergic response to allopurinol and who cannot be treated with other oral ULT, we recommend allopurinol desensitization.

Febuxostat





- For patients with a history of CVD or a new CV event, switch to an alternative ULT agent when available
- Start ≤ 40 mg per day

Uricosurics

- Prior to stating uricosuric, against checking urinary uric acid.
- For patients on uricosuric, against alkalinizing urine.
- Start ≤ 500 mg once to twice daily

* Allopurinol may be titrated up to 800 mg per day in patients with normal renal function. An upper limit for patients with chronic kidney disease is not defined, but starting low and titrate up slowly as recommended and reported in prior studies reduces potential of serious adverse event.

Legend: HLA = Human Leukocyte Antigen, CKD = Chronic Kidney Disease, CV = Cardiovascular, ULT = Urate Lowering Therapy

LEGEND	
	Strongly recommend
	Conditionally recommend
	Conditionally recommend against
	Strongly recommend against

Supplementary Figure 2: Management of Gout Flare

For patients experiencing a gout flare

- Use colchicine, NSAIDs, or glucocorticoids (p.o., i.a., or i.m.) first-line over IL-1 inhibitors or ACTH.
(The choice of colchicine, NSAIDs, or glucocorticoids based on patient factors and preferences.)
- When using colchicine, use low-dose colchicine over high-dose colchicine.
- Use topical ice as adjuvant treatment.

For NPO patients

- Use glucocorticoids (i.m., i.v., or i.a.) first-line over IL-1 inhibitors or ACTH.

For patients failing, contraindicated or not tolerating other anti-inflammatory therapies

- Use IL-1 inhibition

Legend: NSAID = Non-Steroidal Anti-Inflammatory Drug, p.o. = per os, i.a. = intra-articular, i.m. = intra-muscular, ACTH = Adrenocorticotrophic hormone, NPO = nil per os, IL = Interleukin.

LEGEND

- Strongly recommend
- Conditionally recommend
- Conditionally recommend against
- Strongly recommend against

Supplementary Figure 3: Management of Lifestyle Factors and Concurrent Medications

For patients with gout, regardless of disease activity

- Limit alcohol intake
 - Limit purine intake
 - Limit high-fructose corn syrup
 - Recommend weight loss for patients who are overweight or obese
 - Against recommending Vitamin C supplementation (for purpose of treating gout)
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- Switch hydrochlorothiazide to an alternate anti-hypertensive when feasible
 - Choose losartan preferentially as an anti-hypertensive when feasible
 - Against stopping low-dose aspirin (who are on this medication for appropriate indications)
 - Against adding or switching to fenofibrate

LEGEND

- Strongly recommend
- Conditionally recommend
- Conditionally recommend against
- Strongly recommend against