

# Gout: Review and What's New

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# Objectives

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1. Review basics of gout pathophysiology, diagnosis, and disease course
2. Design a treatment regimen for gout flare acute treatment, urate-lowering therapy, and gout flare prophylaxis
3. Identify considerations in medication selection, including comorbidities and drug interactions
4. Demonstrate how to titrate and monitor to treatment goals

# If you space out...



Crystal-prove if possible, especially if not typical presentation



Gout has significant morbidity, often overlooked



Gout tx is not rocket science for vast majority



Even for uncomplicated patients, important to:

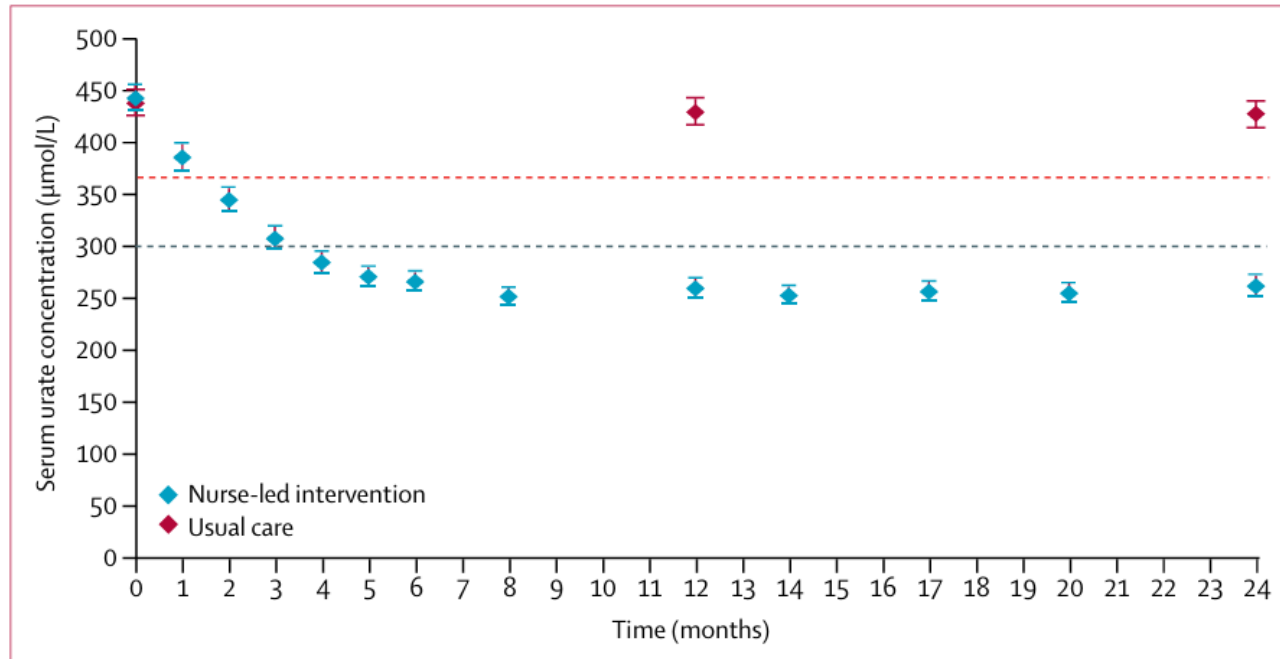
- Treat to target uric acid, usually  $< 6$
- Ensure adherence to urate-lowering therapy and/or check uric acid occ esp if flares

# Gout is Undertreated

- 1/3 with gout Rx'ed urate-lowering therapy (ULT) in U.S.
- > 1/2 d/c ULT within 1 year
- Achievement of goal uric acid ~30% (would expect 80% if titrated properly)
- 55-60% allopurinol nonadherence



# Nurse-Led ULT



**Figure 2: Mean (95% CI) serum urate concentrations throughout the study**

Data in the usual-care group were only available at baseline, 1 year, and 2 years but serum urate monitoring data recorded in follow-up visits were available in the nurse-led group.

# Epidemiology

- Prevalence in the U.S. ~5% and increasing
- Risk factors:



## Non-modifiable

- Age and gender (male or premenopausal female)
- Race (Asian American)
- Genetics



## Modifiable

- Obesity
- HTN
- Dyslipidemia
- Cardiovascular disease
- Diabetes mellitus
- CKD
- Dietary factors
- Alcohol
- Medications altering urate balance

# Symptoms - Acute Gout Flare

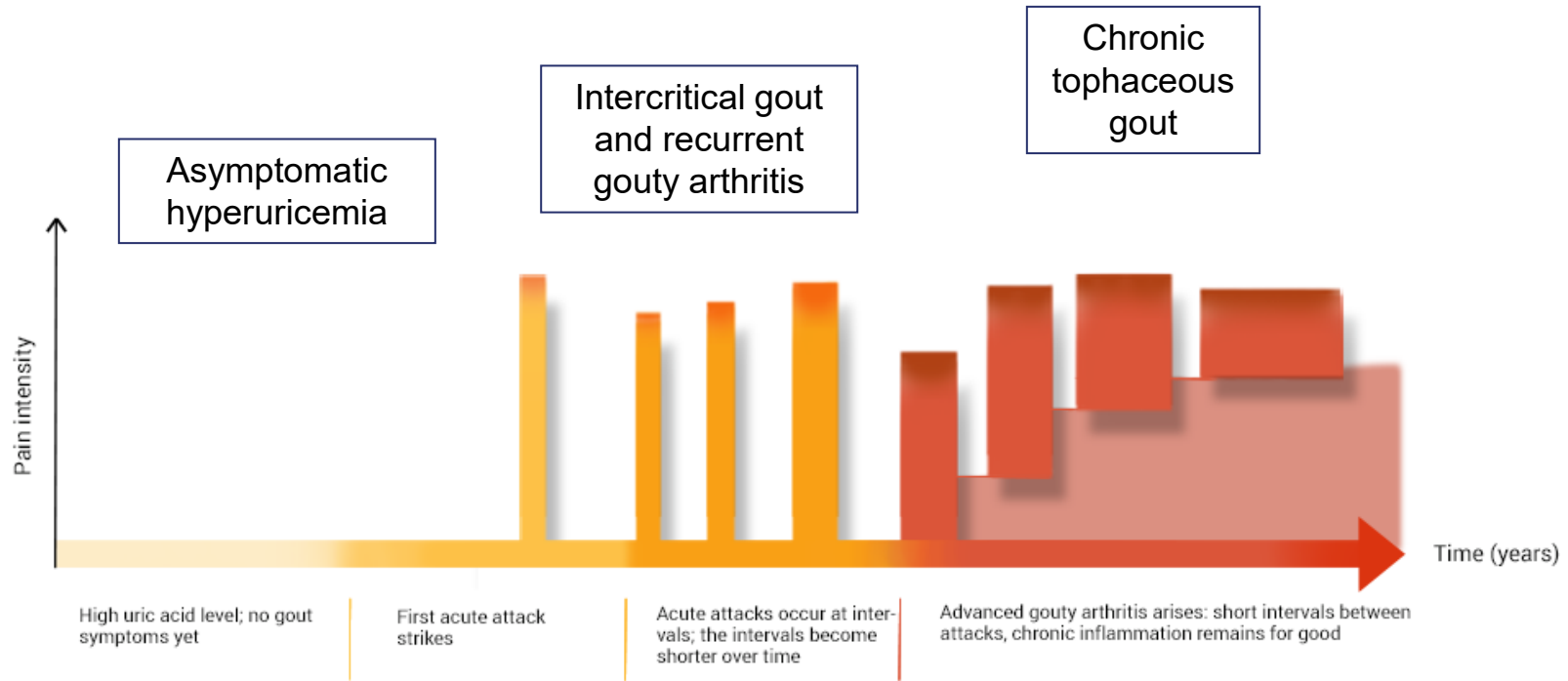
- Severe joint pain – described as being on fire or being dislocated
- Rapid onset (6-12 hours), localized (85-90% single joint), inflammatory
- Self-limiting and may last from days to weeks (3-14 days)
- Most common joint is first metatarsophalangeal – “podagra”
- Also common: insteps, ankles, heels, knees, wrists, fingers, elbows

Gout flare



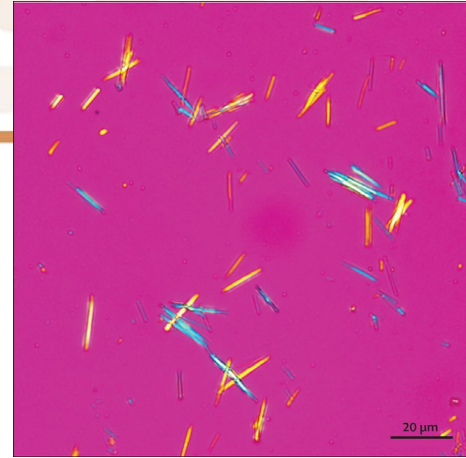
Tophus = uric acid + immune cells

# Disease Course



# Diagnosis

- Joint fluid aspiration
  - Gold standard (“crystal-prove”)
  - MSU crystals confirms gout
- Serum uric acid (sUA) should be measured and followed
  - However, it is NOT diagnostic
  - Uric acid can be higher or lower (usually lower) than usual during a flare



# Dx (Cont.)

Prevalence	
≤ 4 points	2.2%
> 4 to < 8 points	31.2%
≥ 8 points	82.5%

Male sex

No 0 Yes +2

Previous patient-reported arthritis attack

No 0 Yes +2

Onset within 1 day

No 0 Yes +0.5

Joint redness

No 0 Yes +1

1st metatarsophalangeal joint involvement

No 0 Yes +2.5

Hypertension or ≥1 cardiac diseases

No 0 Yes +1.5

Angina, MI, CHF, Stroke/TIA, PVD

Serum uric acid > 5.88 mg/dL (0.35 mmol/L)

No 0 Yes +3.5

**8** points

82.5% prevalence of gout in original study.

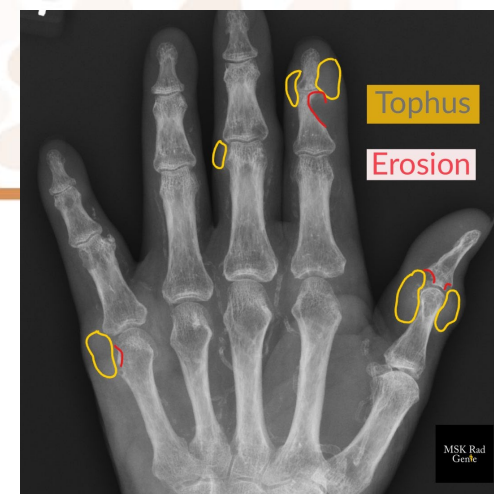
Gout is very likely.

# Importance of Treating Gout

- Gout is NOT necessarily a disease of acute flares followed by full recovery of the involved joint
- Gout is NOT a “self-inflicted” disease caused by food or alcohol → cannot be fully solved by diet changes
- Gout is an independent risk factor for mortality, esp cardiovascular mortality, even after adjusting for age, sex, and comorbidities
- Focus is often on treating flares, under-estimating gout’s impact on mobility, function, and quality of life

# Importance of Treating Gout

- Without treatment:
  - Flares
  - Joint damage
  - Tophi
  - Kidney stones (10-25%)
  - ?Urate nephropathy
- It can take months-years for crystals or tophi to dissolve



# Gout and Mortality

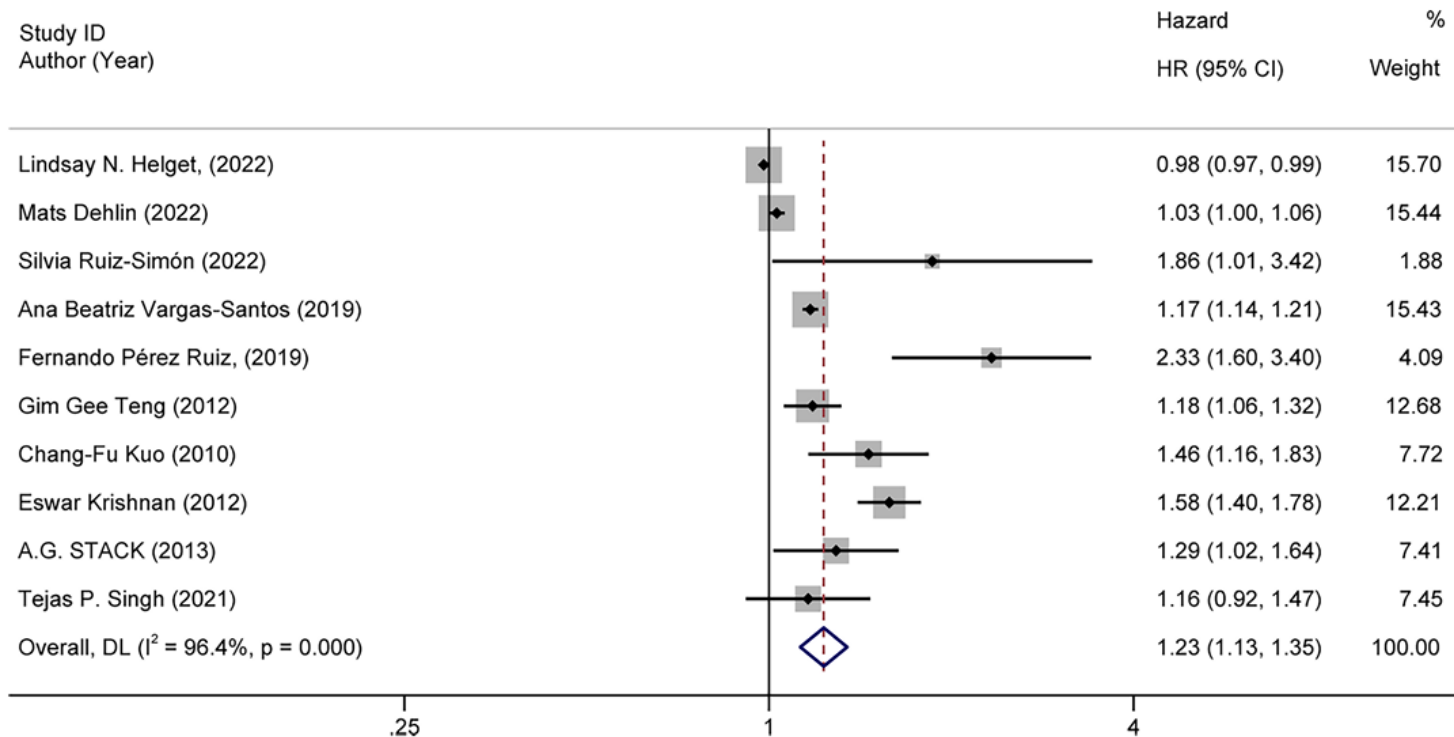


Fig. 2. Forest plot for the risk of all-cause mortality in gout.

Wang X, Li X, Wang H, Chen M, Wen C, Huang L, Zhou M. All-cause and specific mortality in patients with gout: A systematic review and meta-analysis. *Semin Arthritis Rheum.* 2023 Dec;63:152273. doi: 10.1016/j.semarthrit.2023.152273.

# Gout and Cardiovascular Mortality

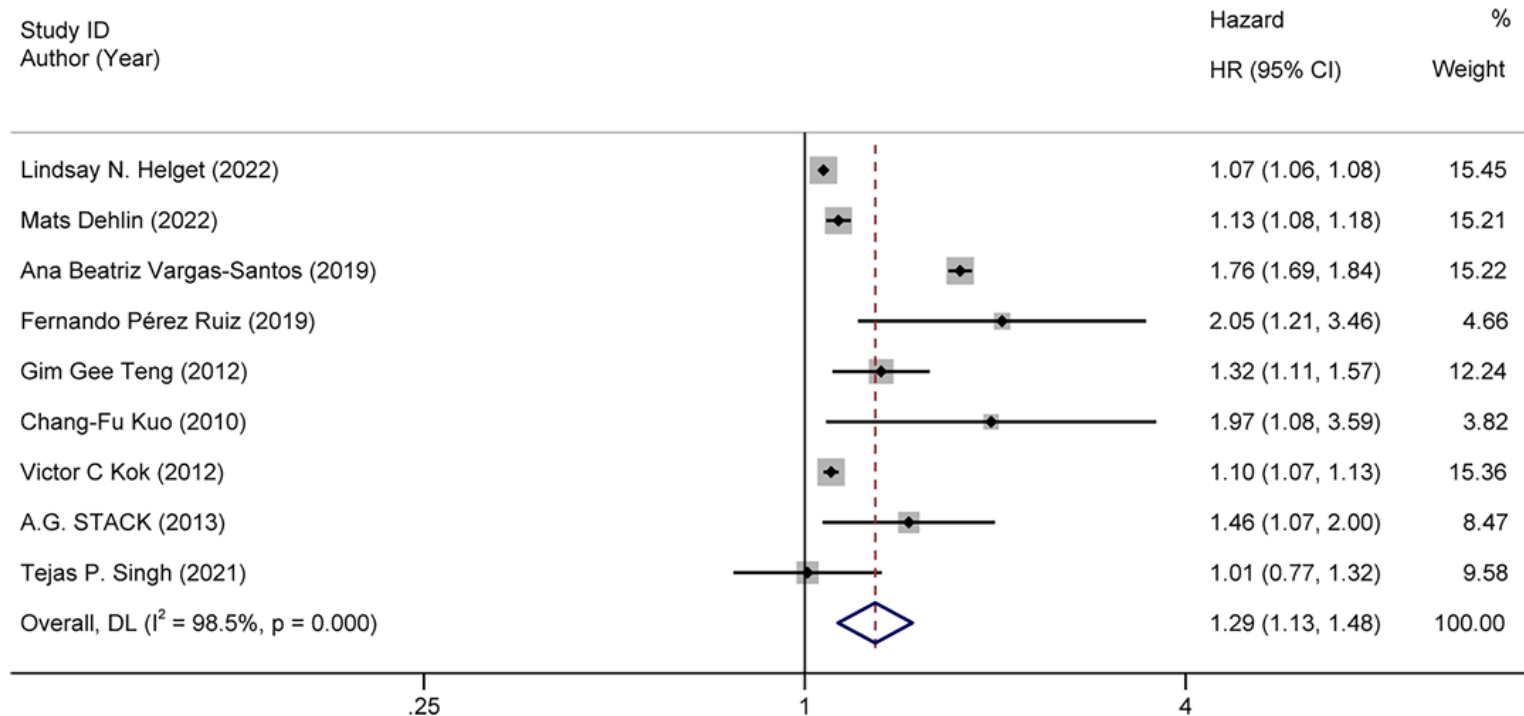


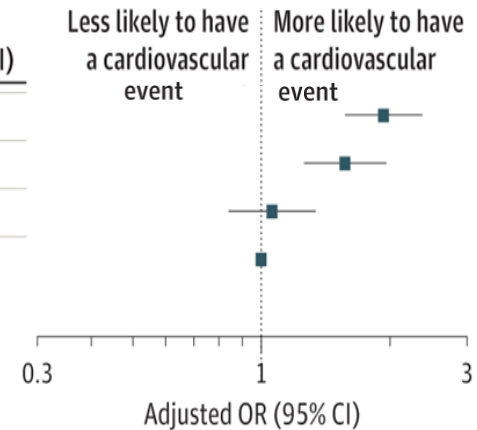
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# Gout Flares May Affect CV Risk

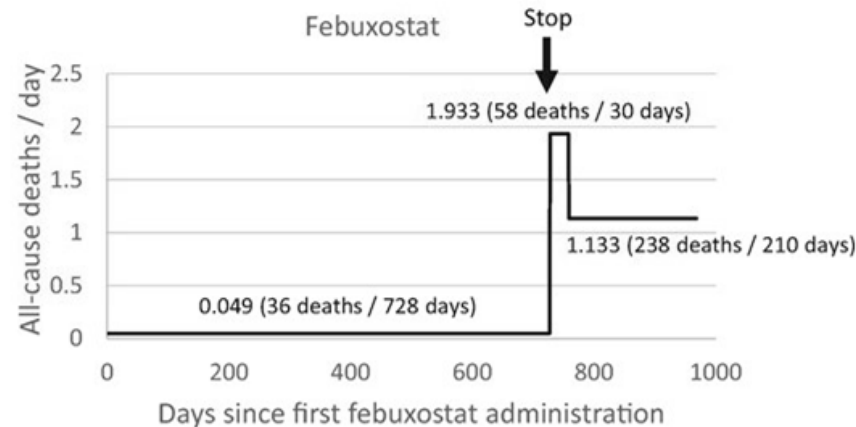
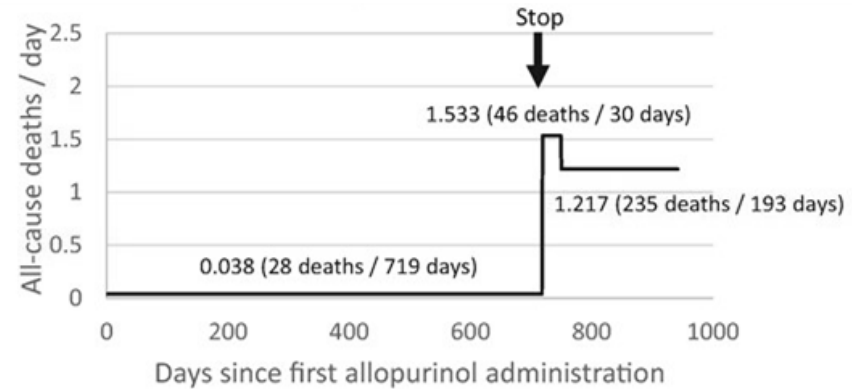
- 2022 large database study: OR 1.9 for 0-60 days

Gout flare exposure window, d <sup>a</sup>	No. (%) of participants		Unadjusted difference, % (95% CI)	Adjusted OR (95% CI)
	Cases <sup>b</sup> (N=10475)	Controls <sup>c</sup> (N=52099)		
0-60	204 (2.0)	743 (1.4)	0.5 (0.2 to 0.9)	1.93 (1.57 to 2.38)
61-120	170 (1.6)	628 (1.2)	0.4 (0.1 to 0.8)	1.57 (1.26 to 1.96)
121-180	148 (1.4)	662 (1.3)	0.1 (-0.2 to 0.5)	1.06 (0.84 to 1.34)
>180 d or no flare <sup>e</sup>	9953 (95.0)	50066 (96.1)	-1.1 (-1.7 to -0.5)	1 [Reference]



# Discontinuation of ULT Affects CV Risk

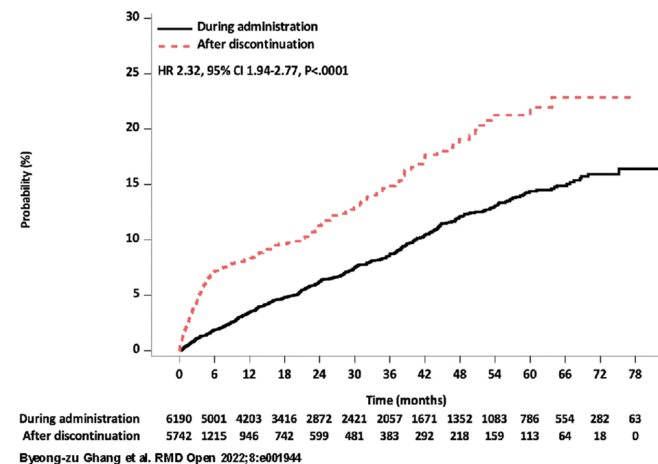
- Reanalyses of **CARES**
- Eg study (at right) postulated MACE induced by rapid sUA changes



# Discontinuation of ULT Affects CV Risk

- Same authors reassess **CARES**
- HR 2.32 for MACE after d/c, vs during ( $p < 0.0001$ )
- Changes in sUA\*, age, and BMI associated with MACE after d/c
- Similar risk found in **FAST** (3X)

Cumulative Kaplan-Meier estimates of the time to the first occurrence of major adverse cardiovascular events (all study patients).

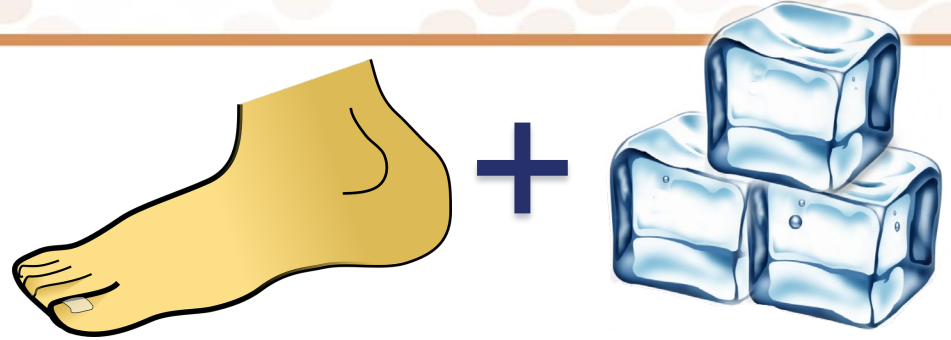




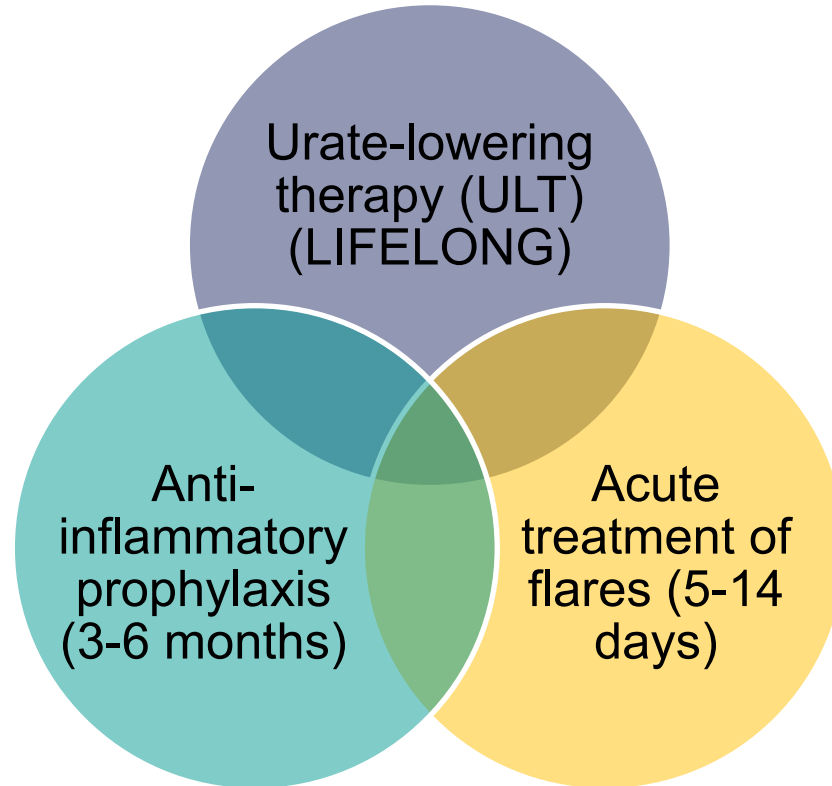
# TREATMENT

# Non-Pharmacologic Therapy

- For acute flares
  - Rest
  - Local ice application
- Diet and lifestyle changes (relatively small effect on uric acid)
  - Avoid: organ meats, high-fructose corn syrup, excessive alcohol
  - Limit: meat, seafood (sardines, shellfish), sugars (eg, naturally sweet fruit juices, desserts), salt
  - Weight loss



# Three Indications for Medications in Gout



# Medications That Impact Uric Acid

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- Choose or avoid medications that have effect on urate-lowering
  - HTN: losartan, STOP thiazides
  - DM2: SGLT2 inhibitors
  - Dyslipidemia: fenofibrate
  - STOP low-dose aspirin if not indicated
  - (often can't stop calcineurin inhibitors or loop diuretics)



# **TREATMENT – Acute Gout Flares**

# ULT During Gout Flares

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- Can initiate new ULT during a flare
- Don't stop ULT

# Treatment of acute gout attack

## Colchicine

- Works best if started soon after onset (esp 12hr)
- Caution in GFR < 30, liver insufficiency, drug-drug interactions (DDIs)

## NSAID (any)

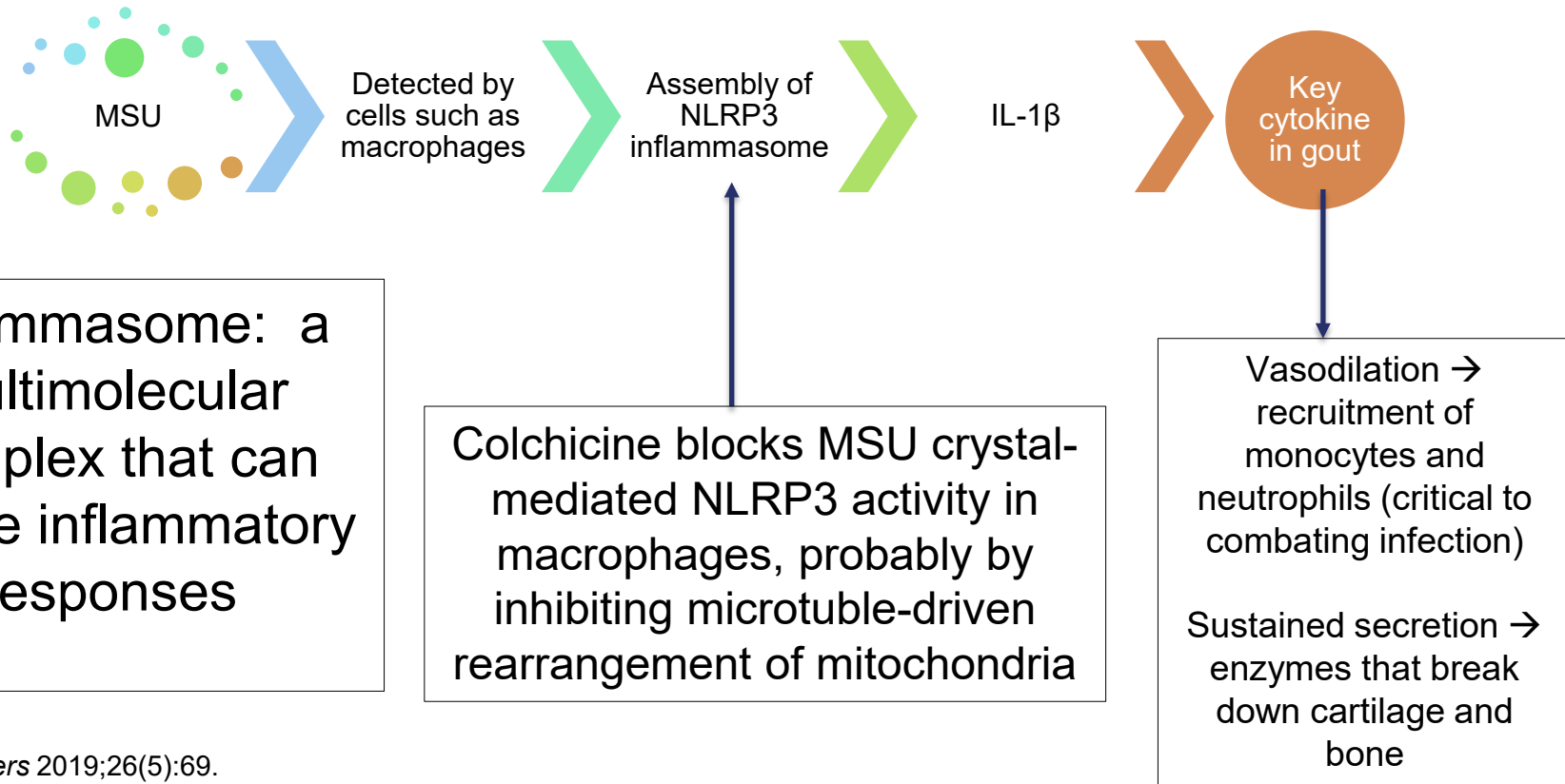
- Good choice for patients with minimal comorbidities

## Prednisone

- Good for GFR < 30
- Most common in rheumatology

- Choose based on comorbidities and patient's experience
- Interleukin-1 inhibitors rarely required

# MOA of Colchicine



# Colchicine

- Dosing
  - 1.2 mg x 1 then 0.6 mg 1 hour later, but may need to be avoided/adjusted based on comorbidities or drug interactions
  - Usually, we allow for a few additional days of use if needed, eg at 0.6 mg bid
- Adverse effects:
  - Common: nausea, diarrhea
  - Severe: myelosuppression, myotoxicity including rhabdomyolysis
- Drug interactions:
  - Fatal DDIs reported, esp if multiple interacting drugs, high colchicine dose, or CKD

# Drug-Drug Interactions (DDIs) with Colchicine

## COLCHICINE ↑ AND MYOTOXICITY

- Simvastatin or atorvastatin > rosuvastatin or pravastatin
- Cyclosporine > tacrolimus
- Fibrates

## COLCHICINE ↑

- Diltiazem, verapamil
- Ketoconazole or itraconazole > fluconazole
- Protease inhibitors (cobicistat, ritonavir, etc)
- Amiodarone, dronedarone
- Clarithromycin > azithromycin
- > 1 cup/day of grapefruit juice

Usually colchicine is the victim! (not the perpetrator)

## COLCHICINE ↓

- Rifampin
- Barbiturates incl primidone
- Carbamazepine
- Phenytoin
- St. John's wort

Magnitude of interaction varies widely between patients

# Colchicine DDIs

LexiDrug and Colcrys package insert have dosing recommendations for drug interactions

Colcrys package insert,  
[https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2020/022352s026lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2020/022352s026lbl.pdf)

Atorvastatin: Lodoco package insert

**Table 6. Drug Interactions: Pharmacokinetic Parameters for COLCRYS (Colchicine, USP) Tablets in the Presence of the Coadministered Drug**

Coadministered Drug	Dose of Coadministered Drug (mg)	Dose of COLCRYS (mg)	N	% Change in Colchicine Concentrations from Baseline (Range: Min - Max)				
				C <sub>max</sub>	AUC <sub>0-t</sub>			
Cyclosporine	100 mg single dose	0.6 mg single dose	23	270.0 (62.0 to 606.9)	259.0 (75.8 to 511.9)			
Clarithromycin	250 mg twice daily, 7 days	0.6 mg single dose	23	227.2 (65.7 to 591.1)	281.5 (88.7 to 851.6)			
Ketoconazole	200 mg twice daily, 5 days	0.6 mg single dose	24	101.7 (19.6 to 219.0)	212.2 (76.7 to 419.6)			
Ritonavir	100 mg twice daily, 5 days	0.6 mg single dose	18	184.4 (79.2 to 447.4)	296.0 (53.8 to 924.4)			
Verapamil	240 mg daily, 5 days	0.6 mg single dose	24	40.1 (-47.1 to 149.5)	103.3 (-9.8 to 217.2)			
Diltiazem	240 mg daily, 7 days	0.6 mg single dose	20	44.2 (-46.0 to 318.3)	93.4 (-30.2 to 338.6)			
Azithromycin	500 mg x 1 day, then 250 mg x 4 days	0.6 mg single dose	21	21.6 (-41.7 to 222.0)	57.1 (-24.3 to 241.1)			
Grapefruit juice	240 mL twice daily, 4 days	0.6 mg single dose	21	-2.55 (-53.4 to 55.0)	-2.36 (-46.4 to 62.2)			
Atorvastatin	40 mg OD	0.6 mg, single dose	2.5	10.7	4.3	58.6	130.60 (111.1-153.5)	127.3 (109.1-148.7)

# Drug Interactions with Colchicine

- Considerations for assessing risk of interaction
  - **Kidney function**
    - Colchicine elimination starts to be compromised at  $< 60$  GFR
    - More concerning at  $< 30$  GFR
    - Do not use in dialysis
  - Liver function (half-life starts to  $\uparrow$  at Child-Pugh C)
  - Colchicine dose and duration
  - Perpetrator dose/duration, if kidney/liver function affect
  - Age (elderly vs not)

# NSAIDs

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- None considered better than another
- Use anti-inflammatory doses, such as:
  - Naproxen 500 mg bid
  - Ibuprofen 600-800 mg tid

# Corticosteroids

- Various oral dosing regimens are reasonable
  - Choose based on severity of flare, usual duration of flares, comorbidities, and patient's experience with efficacy/adverse effects
  - Examples
    - 40mg daily x 5 days
    - 30mg daily x 3 days, then 20mg daily x 3 days, then 10mg daily x 3 days
    - 30 mg daily x 7 days
  - Higher doses, eg 50-60 mg/day not usually necessary
- Intra-articular steroid injections can also be done, but:
  - $\leq 2$  joints involved
  - Patient must agree to have needle placed in painful joint (easier if already doing arthrocentesis)



# **TREATMENT – Urate- Lowering Therapy**

# ULT Indications

**Table 1.** Indications for pharmacologic urate-lowering therapy (ULT)\*

Recommendation	PICO question	Certainty of evidence
For patients with 1 or more subcutaneous tophi, we strongly recommend initiating ULT over no ULT.	1	High
For patients with radiographic damage (any modality) attributable to gout, we strongly recommend initiating ULT over no ULT.	2	Moderate
For patients with frequent gout flares ( $\geq 2$ /year), we strongly recommend initiating ULT over no ULT.	3	High
For patients who have previously experienced $>1$ flare but have infrequent flares ( $< 2$ /year), we conditionally recommend initiating ULT over no ULT.	4	Moderate
For patients experiencing their first flare, we conditionally recommend <i>against</i> initiating ULT over no ULT, with the following exceptions.	5	Moderate
For patients experiencing their first flare and CKD stage $\geq 3$ , SU $> 9$ mg/dl, or urolithiasis, we conditionally recommend initiating ULT.	5	Very low
For patients with asymptomatic hyperuricemia (SU $> 6.8$ mg/dl with no prior gout flares or subcutaneous tophi), we conditionally recommend <i>against</i> initiating any pharmacologic ULT (allopurinol, febuxostat, probenecid) over initiation of pharmacologic ULT.	5†	High†

**Strongly recommend**

**Conditionally recommend**

**Strongly recommend against**

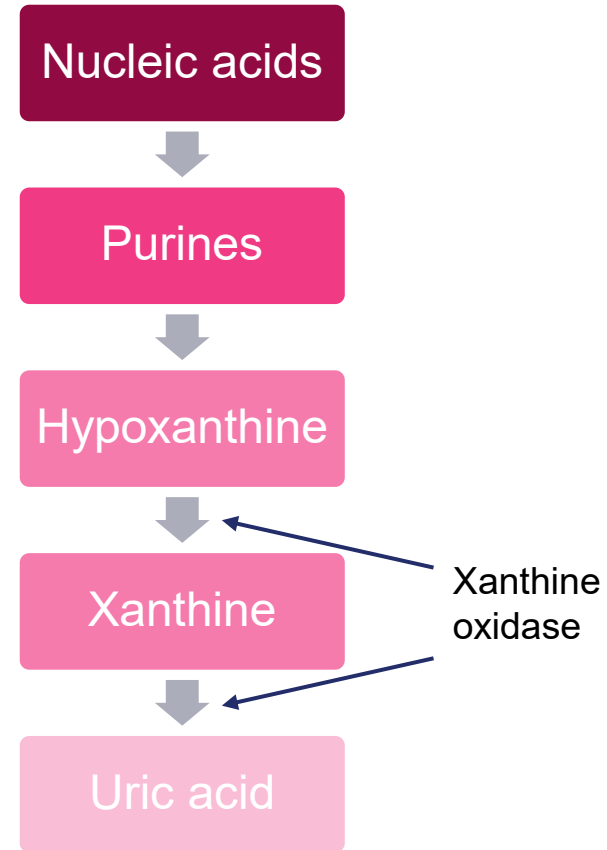
**Conditionally recommend against**

\* PICO = population, intervention, comparator, outcomes; CKD = chronic kidney disease; SU = serum urate.

† There is randomized clinical trial data to support the benefit that ULT lowers the proportion of patients who develop incident gout. However, based on the attributable risk, 24 patients would need to be treated for 3 years to prevent a single (incident) gout flare leading to the recommendation against initiating ULT in this patient group.

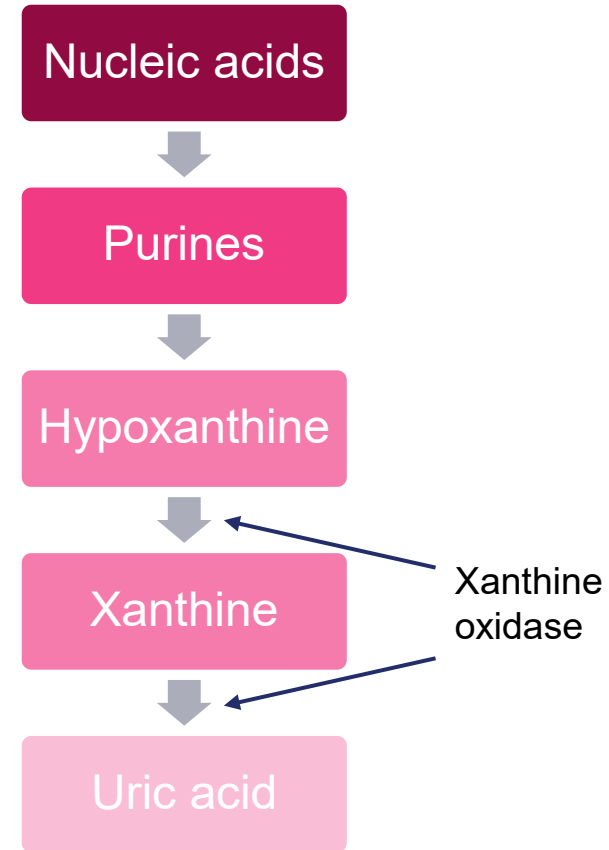
# Allopurinol

- Xanthine oxidase inhibitor
- 1st line
- Low cost
- Long history of use
- Effective in vast majority
- Risk of drug reaction with eosinophilia and systemic symptoms (DRESS)



# Febuxostat

- Xanthine oxidase inhibitor
- Can be used if DRESS during allopurinol
- Unclear cardiovascular risk vs allopurinol
- Less renally metabolized
- Simpler dose titration
- More potent urate-lowering



# Allopurinol - AEs

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- Adverse effects:
  - Uncommon: N/V/D, LFT elevation/hepatotoxicity
  - Very rare: severe cutaneous reactions (DRESS, toxic epidermal necrolysis, Stevens-Johnson), bone marrow suppression
- DRESS (allopurinol hypersensitivity syndrome)
  - Rash (tell patients to stop the drug if rash)
  - Very rare (0.1%) but mortality rate approaching 25%

# Allopurinol Hypersensitivity Syndrome (AHS)

## Skin Symptoms

- Severe blistering cutaneous reaction (SJS, TEN), largely confined to first few mo (regardless of HLA-B\*5801 status)
- Other rashes, even mild could be important



## Other Symptoms



## Risk Factors



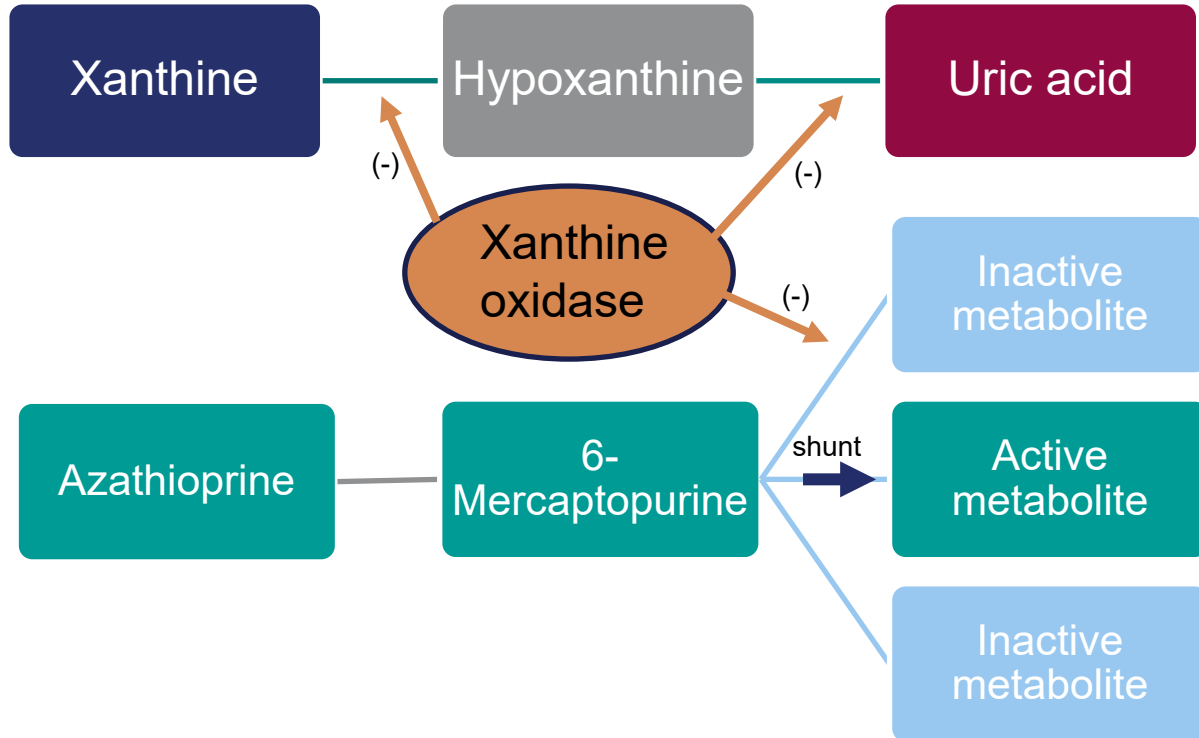
*Drugs* 2023 Nov;83(16):1501-1521.

*JAMA Intern Med* 2015;175(9):1550-1557.

Allopurinol [package insert]. Parsippany, NJ: Actavis Pharma, Inc.;2024.

<https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&AppNo=018832>

# Very Important Drug Interaction! XOIs + Azathioprine or 6-Mercaptopurine

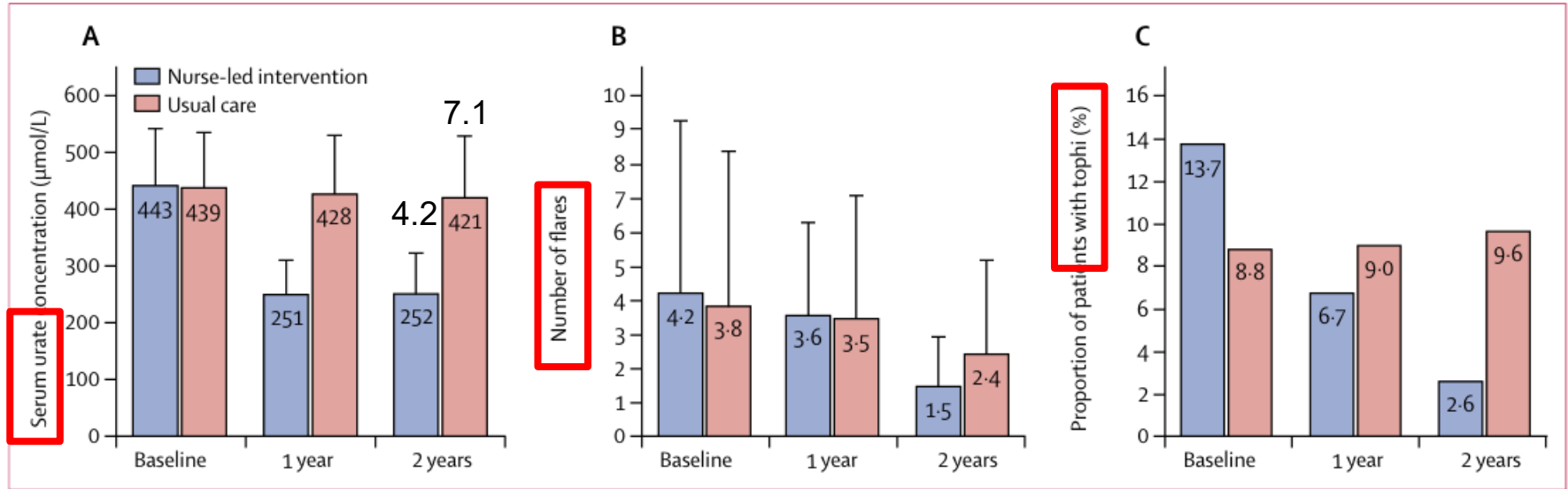


# Treat to Target (T2T)

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- **Goal uric acid < 6** (or lower such as < 5 if tophaceous)
- Titrate ULT every ~3 weeks
- Do not dose-cap allopurinol based on renal function

# Treat to Target: Nurse-Led ULT



**Figure 3: Serum urate concentration, number of flares and presence of tophi at baseline, 1 year, and 2 years**

(A) Mean (95% CI) serum urate concentration. (B) Mean (95% CI) number of flares. (C) Proportion of patients with any tophi.

# T2T: NOR-Gout

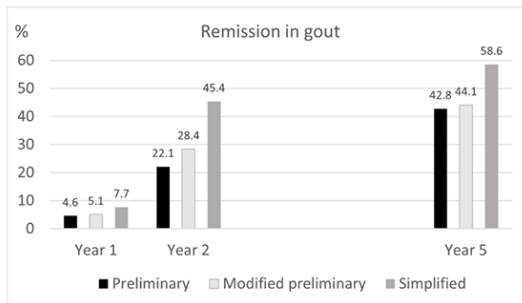


Fig. 2. Fulfilment of preliminary, modified preliminary and the simplified remission definition for gout over 5 years ( $p < 0.001$  for each definition).

**Table 1**  
Criteria for the three remission definitions in gout.

	Preliminary remission (5 domains)	Modified preliminary remission (5 domains)	Simple remission (3 domains)
Tophus	No tophus	No tophus	No tophus
Flare	No flare during last 12 months	No flare during last 12 months	No flare during last 12 months
Serum urate	<6 mg/dl (<360 $\mu\text{mol/L}$ ) at least twice over the last 12 months	<6 mg/dl (<360 $\mu\text{mol/L}$ ) at least twice over the last 12 months	<6 mg/dl (<360 $\mu\text{mol/L}$ ) at least twice over the last 12 months
Pain due to gout	<2 (0–10 scale) at least twice over the last 12 months, without value $\geq 2$	<3 (0–10 scale) at least twice over the last 12 months, without value $\geq 3$	–
Patient global assessment of gout disease activity	<2 (0–10 scale) at least twice over the last 12 months, without value $\geq 2$	<3 (0–10 scale) at least twice over the last 12 months, without value $\geq 3$	–

**Table 1**

Mean (SD) or percentages of laboratory variables, flare, and drug use as well as mean (SD) and median (range) of sum scores of ultrasound elementary lesions during follow-up

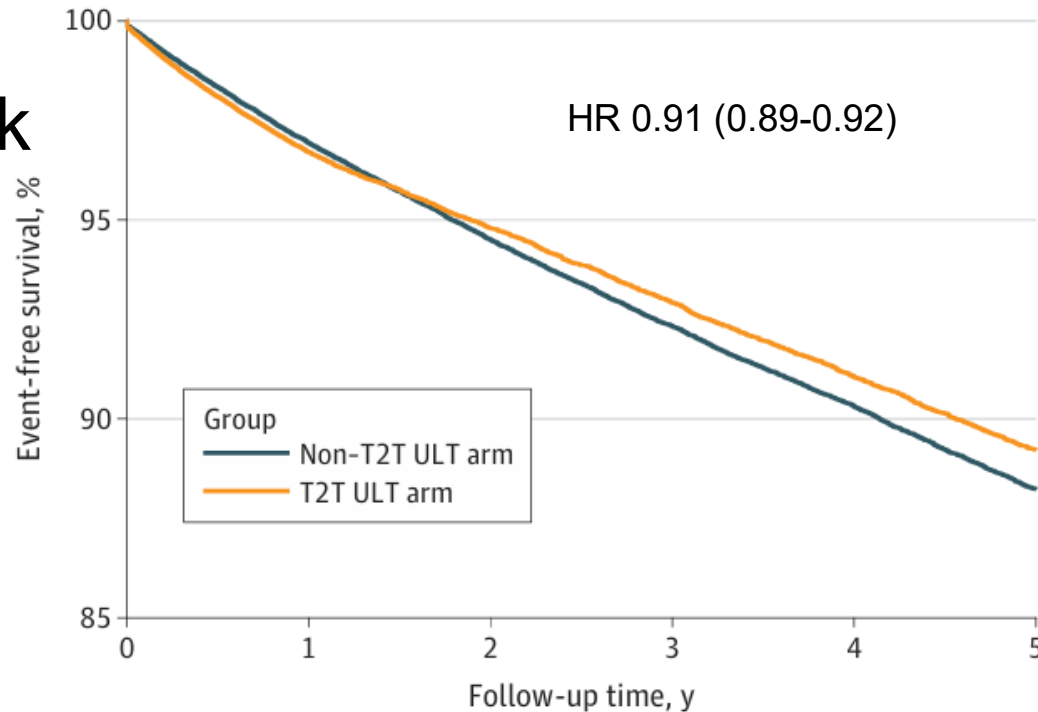
	Baseline (n = 209)	1 y (n = 184)	2 y (n = 172)	5 y (n = 163)		
<b>Laboratory variables</b>						
Serum uric acid ( $\mu\text{mol/L}$ )	<b>8.4</b>	500 (77)	312 (49)	325 (70)	337 (83)	<b>5.7</b>
Patients with sUA $\leq 360 \mu\text{mol/L}$ (%)	0	85.5	78.6	71.2		
Patients with sUA $\leq 420 \mu\text{mol/L}$ (%)	12.3	97.3	92.5	84.7		
CRP (mg/L)	7 (14)	4 (7)	4 (7)	3 (5)		
ESR (mm/h)	15 (14)	10 (10)	11 (10)	10 (10)		
Creatinine ( $\mu\text{mol/L}$ )	96.3 (18.4)	94.7 (19.4)	93.9 (21.1)	95.3 (26.7)		
eGFR (ml/min/1.73 $\text{m}^2$ )	78.0 (18.8)	78.7 (19.1)	79.0 (19.9)	78.4 (21.5)		
<b>Ultrasound findings</b>						
Double contour (sum scores) (mean [SD] and median [range])	4.3 (3.5) 3 (0-18)	1.2 (2.2) 0 (0-13)	0.7 (1.4) 0 (0-9)	0.4 (1.4) 0 (0-9)		
Tophi (sum scores) (mean [SD] and median [range])	6.5 (6.5) 5 (0-42)	3.8 (5.2) 2 (0-31)	2.4 (3.7) 1 (0-27)	1.2 (3.0) 0 (0-33)		
Aggregates (sum scores) (mean [SD] and median [range])	9.3 (5.6) 8 (0-30)	6.7 (5.1) 5 (0-29)	5.5 (4.7) 4 (0-27)	3.4 (3.5) 2 (0-17)		
Double contour, tophi, and aggregates (total sum scores) (mean [SD] and median [range])	20.0 (13.9) 16 (1-72)	11.7 (11.3) 9 (0-67)	8.6 (8.8) 6 (0-49)	5.1 (6.9) 3 (0-59)		
<b>Flare</b>						
Patients with flare (%)	100	81.0	24.7	16.0		
<b>Drug use</b>						
Allopurinol (%)	14.9	87.4	84.1	81.0		
Mean (SD) dose of allopurinol (mg)	152 (109)	289 (120)	285 (118)	262 (111)		
Febuxostat (%)	0	12.6	15.3	14.1		
Mean (SD) dose of febuxostat (mg)	0	59 (24)	60 (20)	57 (20)		

CRP, C-reactive protein; eGFR, estimated glomerular filtration rate; ESR, erythrocyte sedimentation rate; sUA, serum uric acid.

# Treat to Target: Risk of MACE

- Cohort study using target trial framework
- Newly Rx'ed ULT
- N=100,000+
- Latest mean uric acid during 1<sup>st</sup> yr: 5.18 vs 7.73

A Weighted event-free survival for MACE



# Treat to Target: vs Symptom-Driven Mgmt

- Open-label RCT in Netherlands (GO TEST Overture) of T2T vs sx-driven mgmt
  - Remission = no flares during mo 18–24, no SC tophi at mo 24, pain score < 2, PtGA > 8 (10 is very well)

	Treat-to-target group (n=145)	Symptom-driven management group (n=163)	Absolute difference (95% CI), percentage points*	Odds ratio (95% CI)†	p value
<b>Primary outcome</b>					
Remission during 18–24 months of follow-up according to adapted preliminary gout remission criteria‡	39.4%	24.0%	15.4 (6.4–24.4)	0.48 (0.26–0.91)	0.024

# Gout Case 1

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- 61yo Black male with crystal-proven non-tophaceous gout presents for f/u
- Allopurinol 200 mg daily but inconsistent fills (no gout flare px)
- Apixaban, amiodarone, pravastatin
- HFrEF, HIV, MI, paroxysmal afib, OSA, hepatic steatosis, asthma, HTN, DM2, CKD
- Labs checked, referred to pharmacist

# Gout Case 1

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- Uric acid 9.4, SCr 2.0, GFR 37
- Allopurinol increased to 300 mg daily
- Shared decision-making re: px, decided against
- Uric acid 7.6, gout flare treated with prednisone 20 mg daily x 7 days, allopurinol increased to 400 mg daily

# Gout Case 1

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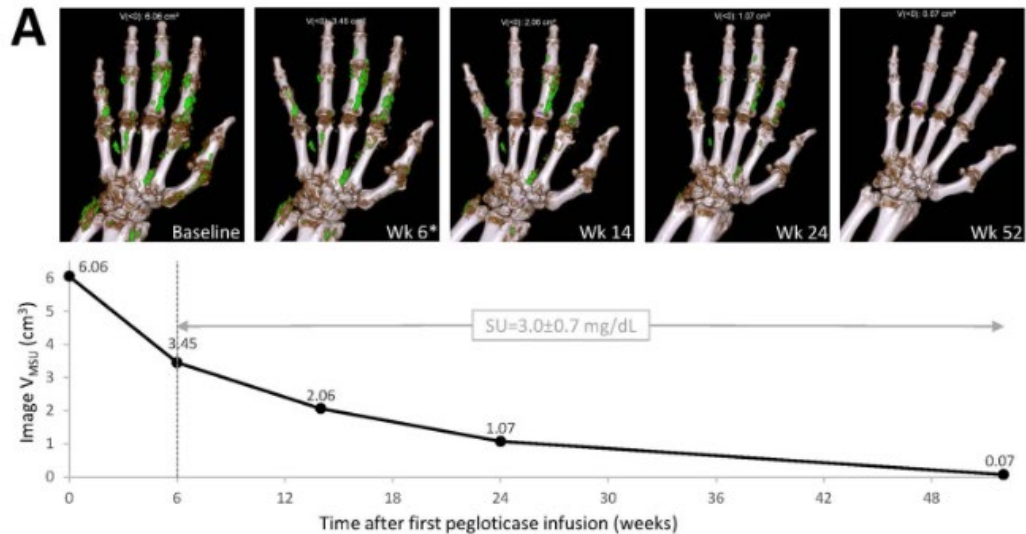
- Uric acid 8.3, SCr 1.39 → 1.86
- HF exacerbation, hepatic congestion, SCr 2.88, uric acid 12.8, rasburicase, uric acid 2.5
- Gout flare treated with prednisone 20 mg daily x 7 days then 5 mg daily (prophylaxis)
- Uric acid 4.7, SCr 1.93

# Patient Counseling is Important!

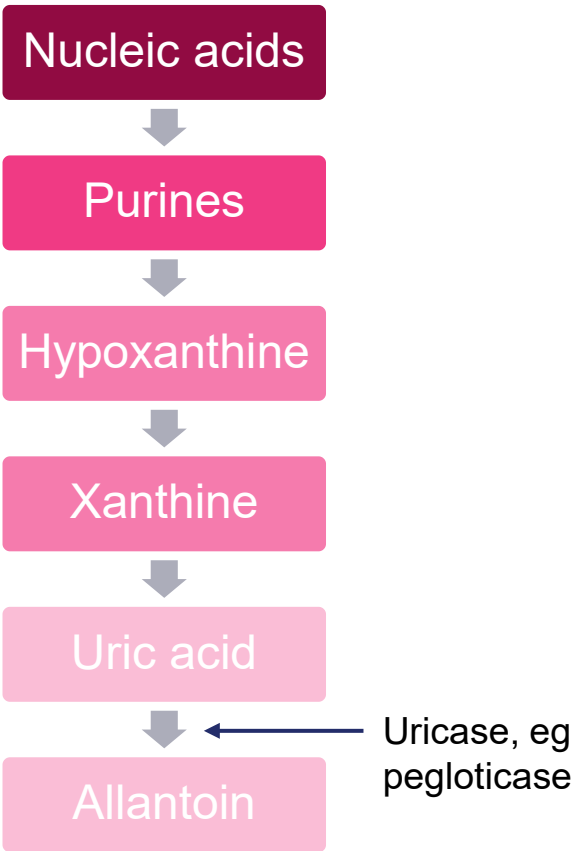
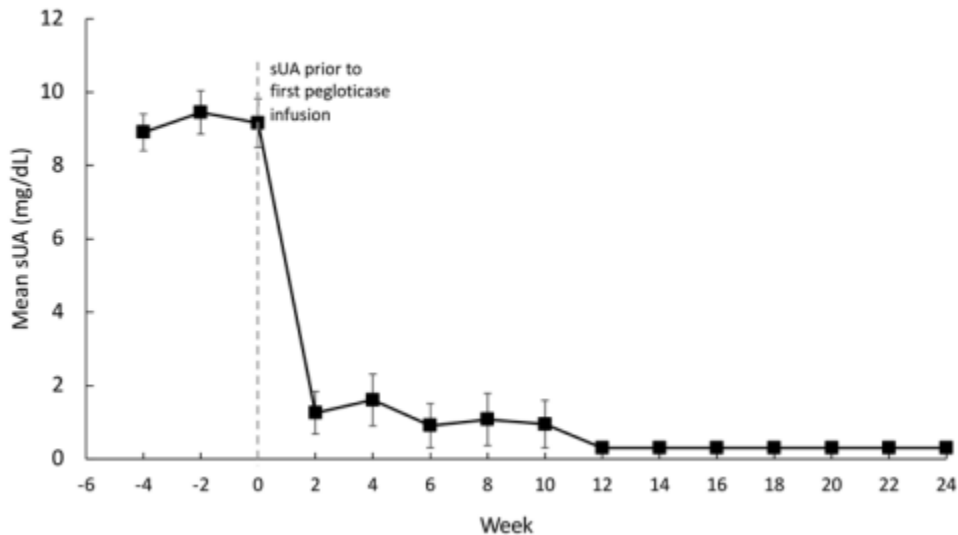
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- Allopurinol does not cause kidney disease
- ULT duration is indefinite
- ULT adherence (and not stopping and starting) important to avoid flares/complications
- Flares can still occur for months after ULT initiation
  - Does not mean ULT is not going to ultimately work

# Patient Counseling is Important!



# Pegloticase



## Case 2

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- 80yo White female with crystal-proven gout for 30 yr, told to avoid allopurinol due to glomerulonephritis since teen. Multiple diffuse tophi but no flares of inflammatory arthritis. Significant pain in R elbow due to tophus. Tophaceous material in nonhealing foot ulcer.
- CKD (GFR 27-42), cardiomyopathy
- Apixaban, furosemide

## Case 2

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- Rheumatologist started mycophenolate and prednisone 5 mg daily, referred to pharmacist for pegloticase
- Pegloticase 8 mg IV q2wk, uric acid immediately dropped to  $< 0.2$
- Did very well on pegloticase with no sign of drug rejection/allergy, so continued for 16 mo
- Now transitioned to allopurinol 100 mg daily



# **TREATMENT – Anti- Inflammatory Prophylaxis**

# Anti-Inflammatory Prophylaxis

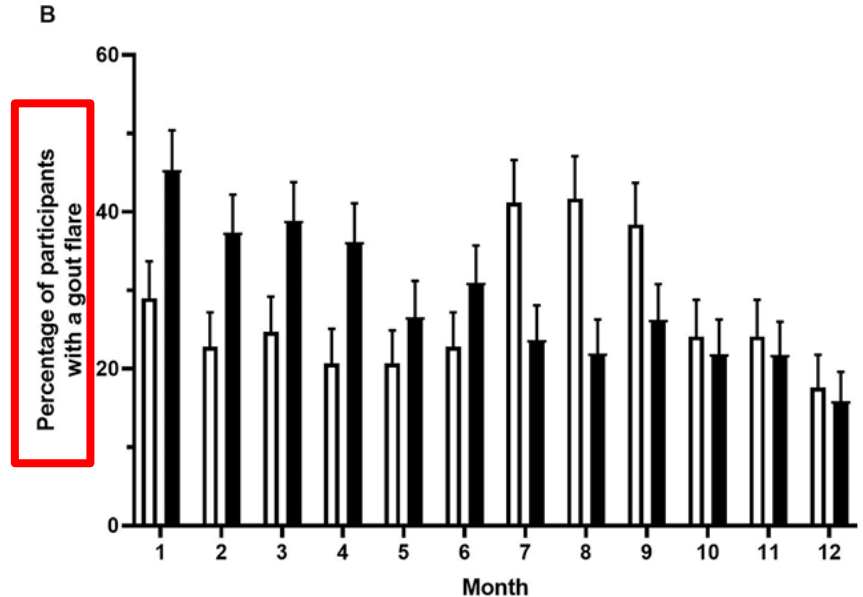
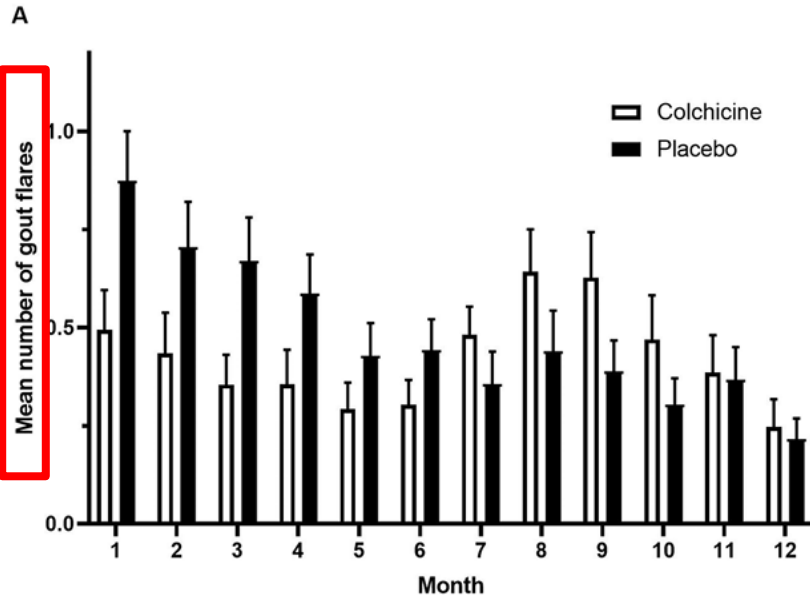
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- Reduce flares during initiation/titration of ULT
- Used for 3-6 months
- Same medications as for acute gout flares but different doses:
  - Colchicine 0.6 mg daily or bid
  - NSAIDs, eg naproxen 250 mg bid
  - Corticosteroids, eg prednisone 5 mg daily

# Colchicine vs Placebo in Start-Low Go-Slow Allopurinol (100-mg, or 50-mg for GFR ≤ 60)

**Table 2** Primary and secondary outcomes mean (SEM) (unless otherwise stated)

	Colchicine (n=100)	Placebo (n=100)	Mean difference (placebo-colchicine)	P value
Primary outcome				
Mean (95% CI) no gout flares per month between 0 and 6 months	0.35 (0.22 to 0.49)	0.61 (0.47 to 0.74)	0.25 (0.07 to 0.44)	0.92 (non-inferiority)



# Typical Gout Regimen (Normal GFR)

- Start allopurinol at 100 mg daily
- Start colchicine at 0.6 mg daily (at same time)
- Titrate allopurinol by 100-mg increments every 3-4 weeks to uric acid < 6
  - If not tolerated or not effective, switch to febuxostat 40 mg daily and titrate
- Treat flares with prednisone
- Can ↑ colchicine to 0.6 mg bid if multiple flares

# Typical Gout Regimen for GFR < 30

- Start allopurinol at 50 mg daily
- Depending on comorbidities/interactions start colchicine 0.3 mg/day or prednisone 5 mg daily
- Titrate allopurinol by 50-100-mg increments every 3-4 weeks to uric acid < 6
  - If not tolerated or not effective, switch to febuxostat at 40 mg daily and titrate (PI - limit dose to 40 mg/day in CrCl < 30; however, up to 120 mg/day shown to be safe)
- Treat flares with prednisone

# If you space out...



Crystal-prove if possible, especially if not typical presentation



Gout has significant morbidity, often overlooked



Gout tx is not rocket science for vast majority



Even for uncomplicated patients, important to:

- Treat to target uric acid, usually  $< 6$
- Ensure adherence to urate-lowering therapy and/or check uric acid occ esp if flares

Questions?

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Thank you