# Gout Treatment Guidelines- Can we just get along?

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## Disclosures

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## Goals

- To explore the treatment of gout using the ACP and ACR guidelines as references
- Explore the concept of a treat-to-target approach to gout

## What do we know about gout?

*…this pain is like that of a dislocation, and yet the parts feel as if cold water were poured over them…it is a violent stretching and tearing of the ligaments... the night is passed in torture…*"

*Thomas Sydenham, 17th C*

- Gout patients have an increased risk of cardiovascular disease, hypertension, CKD, and diabetes (*Mikuls TR et al. Ann Rheum Dis 2005; 64: 267-72).* https://ard.bmj.com/content/annrheumdis/64/2/267.full.pdf

# Allopurinol Treatment in Routine Practice - Where's the Cookbook?

1 in 3 (31%) received no prophylaxis

Initial dose of ≤ 100 mg 49%

60% discontinued allopurinol during observation period (mean ~ 3 years)

- 18% with single prescription

Daily doses > 300 mg rarely used

Of patients continuing treatment over observation:

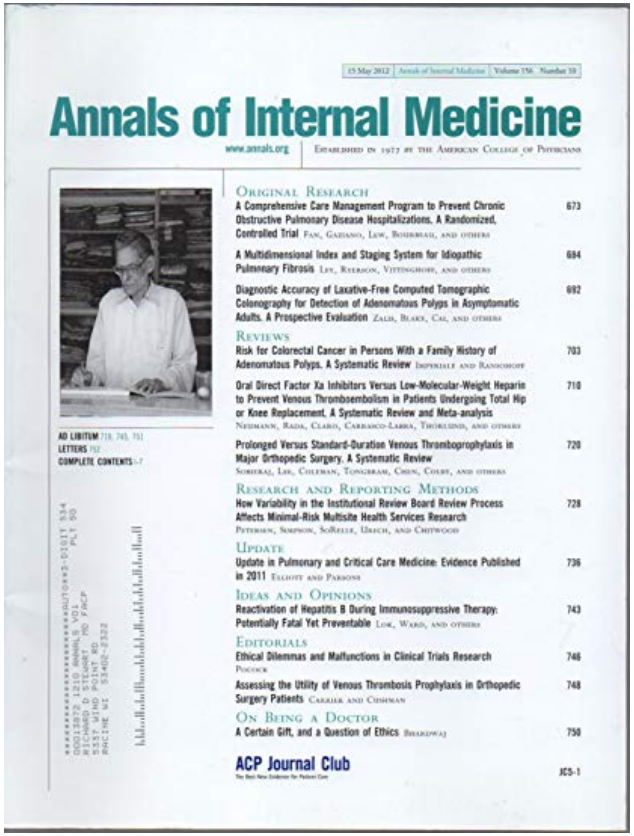
- 1 in 4 (26%) received dose escalation
- 1 in 3 (36%) with sUA < 6.0 mg/dl

*Rashid N et al. J Rheumatol 2015; 42: 504*

# To Treat or Not to Treat (to Target) in Gout

## YES


## NO…not yet



# Gout Guidelines

## Comparisons and Fundamental Differences

ACP

- Using the ACP grading system, the committee based these recommendations on a systematic review of randomized, controlled trials; systematic reviews; and large observational studies published between January 2010 and March 2016.

ACR

- The guidelines focused on clinically-based decision making in common scenarios and not on rare case presentations.
- Evidence grades for recommendations:
  - level A = supported by multiple (i.e., >1) randomized clinical trials or meta-analyses
  - level B = derived from a single randomized trial or nonrandomized studies
  - level C = consensus opinion of experts, case studies, or standard of care


1. Qaseem, A., Harris, R. P., & Forciea, M. A. (2017). Management of acute and recurrent gout: a clinical practice guideline from the American College of Physicians. *Annals of internal medicine*, *166*(1), 58-68.
2. Khanna, D., Fitzgerald, J. D., Khanna, P. P., Bae, S., Singh, M. K., Neogi, T., ... & Kaldas, M. (2012). 2012 American College of Rheumatology guidelines for management of gout. Part 1: systematic nonpharmacologic and pharmacologic therapeutic approaches to hyperuricemia. *Arthritis care & research*, *64*(10), 1431-1446.

# Gout Guidelines

## Comparisons

ACP

**Recommendation 1:**

*ACP recommends that clinicians choose corticosteroids, nonsteroidal anti-inflammatory drugs (NSAIDs), or colchicine to treat patients with acute gout. (Grade: strong recommendation, high-quality evidence)*

**Recommendation 2:**

*ACP recommends that clinicians use low-dose colchicine when using colchicine to treat acute gout. (Grade: strong recommendation, moderate-quality evidence)*

**Recommendation 3:**

*ACP recommends against initiating long-term urate-lowering therapy in most patients after a first gout attack or in patients with infrequent attacks. (Grade: strong recommendation, moderate-quality evidence)*

**Recommendation 4:**

*ACP recommends that clinicians discuss benefits, harms, costs, and individual preferences with patients before initiating urate-lowering therapy, including concomitant prophylaxis, in patients with recurrent gout attacks. (Grade: strong recommendation, moderate-quality evidence)*

- "Thus, we remain uncertain about the value of a treat-to-target strategy compared with a strategy of basing treatment intensity on minimizing symptoms".

Qaseem, A., Harris, R. P., & Forciea, M. A. (2017). Management of acute and recurrent gout: a clinical practice guideline from the American College of Physicians. *Annals of internal medicine*, *166*(1), 58-68.

# Nurse Led Gout Care (UK)

Parallel-arm; randomized study (nurse led care incorporating treat-to-target ULT vs. usual care by GPs)

Gout patients reporting flare within 12 months

Intervention:

- Education
- ULT low dose followed by escalation to achieve sUA goal:
  - 1st line = Allopurinol 100 mg + escalation to achieve sUA goal
  - 2nd line = Febuxostat 80 mg + escalation if needed (or benzbromarone)
- Colchicine prophylaxis “considered”

Cost effectiveness of intervention assessed (NHS perspective and lifetime horizon)

Doherty M et al. Lancet 2018; 392: 1403

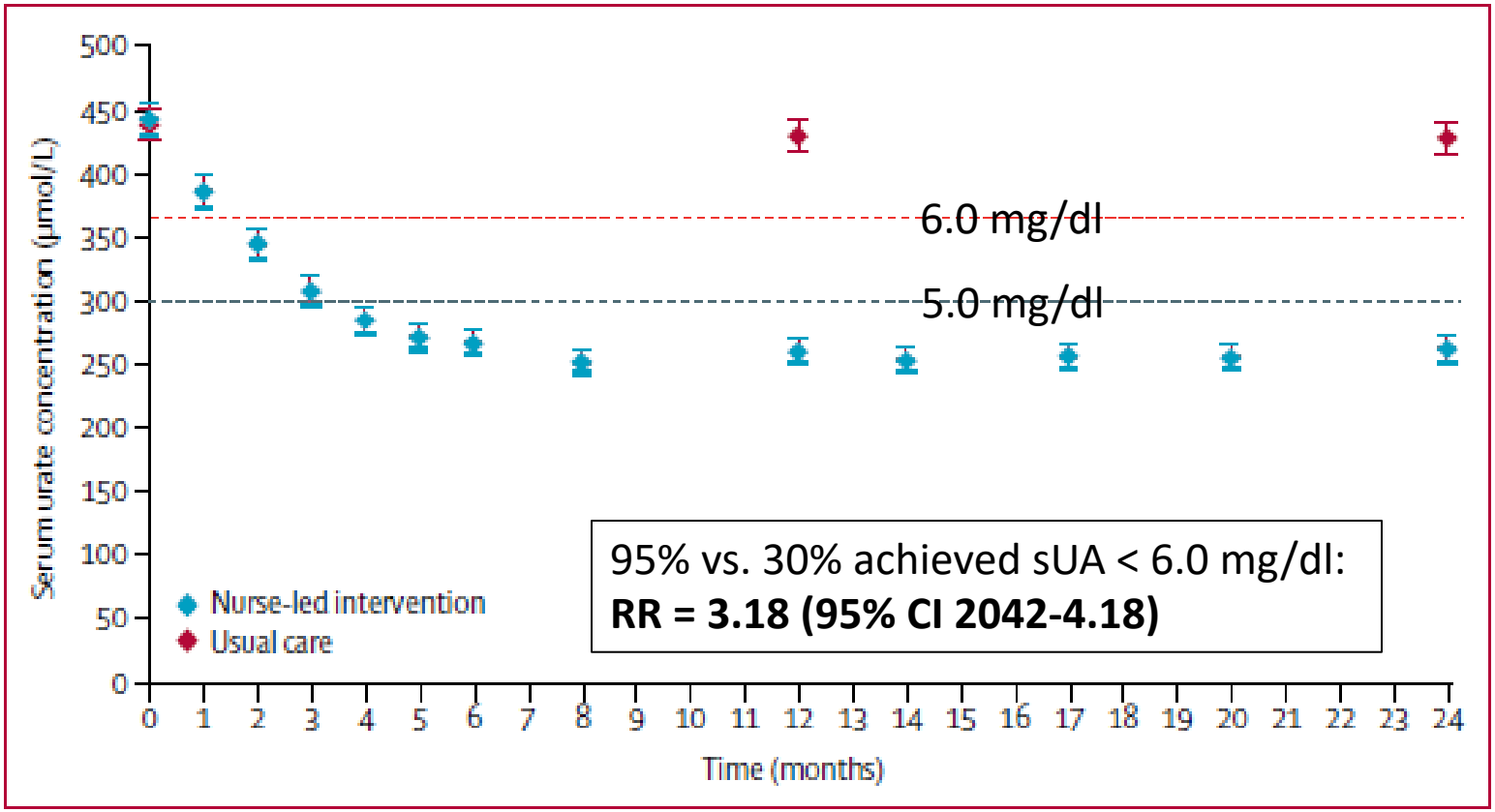



***Figure 2:*** **Mean (95% CI) serum urate concentrations throughout the study**
Data in the usual-care group were only available at baseline, 1 year, and 2 years but serum urate monitoring data recorded in follow-up visits were available in the nurse-led group.

*** Accompanied by significantly greater improvements in SF-36 scores (physical) and Gout Impact Scores

Doherty M et al. Lancet 2018; 392: 1403

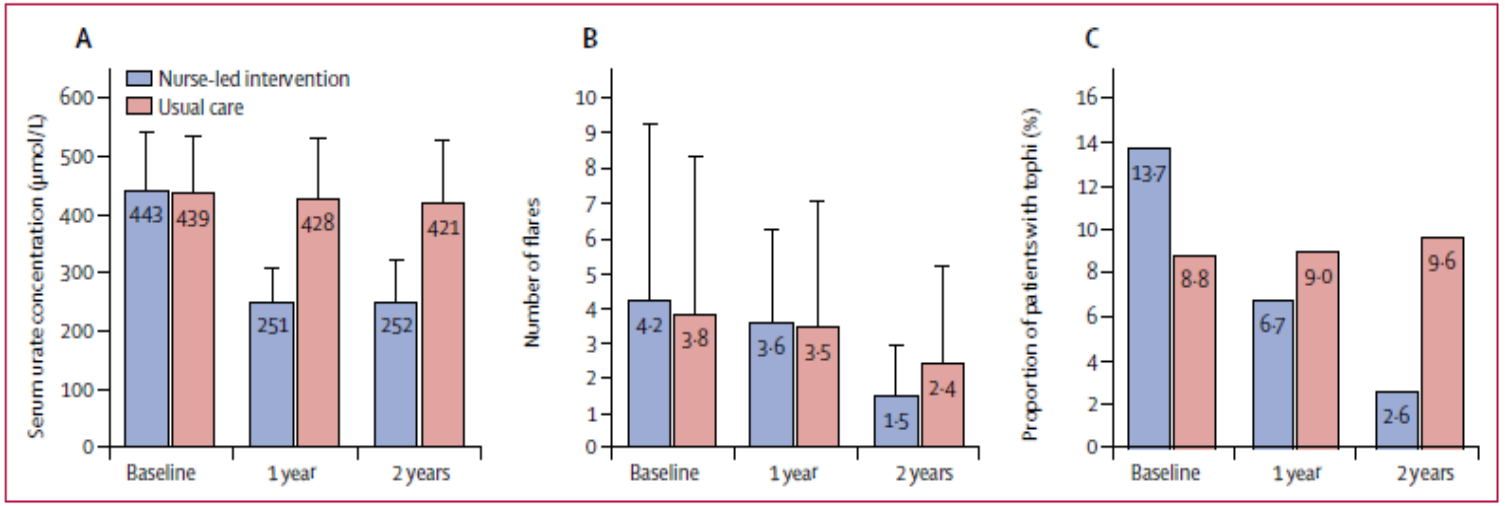



*Figure 3*: **Serum urate concentration, number of flares and presence of tophi at baseline, 1 year, and 2 years**
(A) Mean (95% CI) serum urate concentration. (B) Mean (95% CI) number of flares. (C) Proportion of patients with any tophi.

## 2 YEAR OUTCOMES:

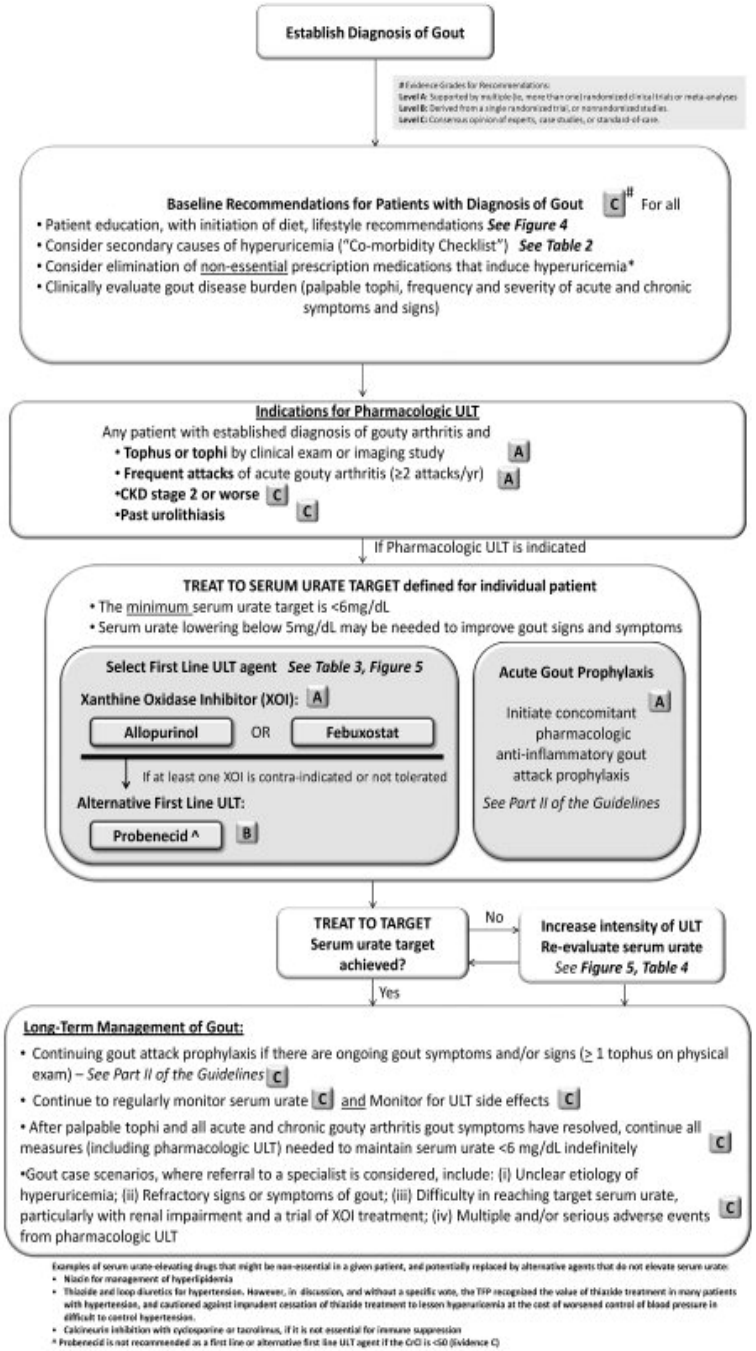
| | Nurse-Led Care (n = 255) | Usual Care (n = 262) | RR (95% CI) |
|---|---|---|---|
| Taking ULT | 96% | 56% | 1.71 (1.38-2.11) |
| ≥ 2 flares | 8% | 24% | 0.33 (0.19-0.57) |
| ≥ 4 flares | 1% | 12% | 0.09 (0.02-0.36) |
| Tophi present | 3% | 11% | 0.21 (0.08-0.52) |

*** Cost per QALY gained for nurse-led care estimated to be £5066

*** NNT for sUA goal = 1.5
NNT for flare reduction = 6.2

Doherty M et al. Lancet 2018; 392: 1403

# 2012 ACR Guidelines




**Xanthine Oxidase Inhibition first line (allopurinol or febuxostat)**

**Probenecid reasonable alternative (but may lack efficacy in CKD)**

**Role for alternative uricosuric therapy?**

- **Benzbromarone**
- **Lesinurad (RDEA 594)**
- **Pegloticase**

**Mikuls TR. Antihyperuricemic Agents. Kelley's Textbook of Rheumatology, 9th Ed. (2012)**

**Arthritis Care & Research**
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http://onlinelibrary.wiley.com/doi/10.1002/acr.21772/full#fig3

# Summary

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