

Pharmacist Counseling Service on Improving  
Arthritis Patient's Medication Adherence  
and Disease Activity

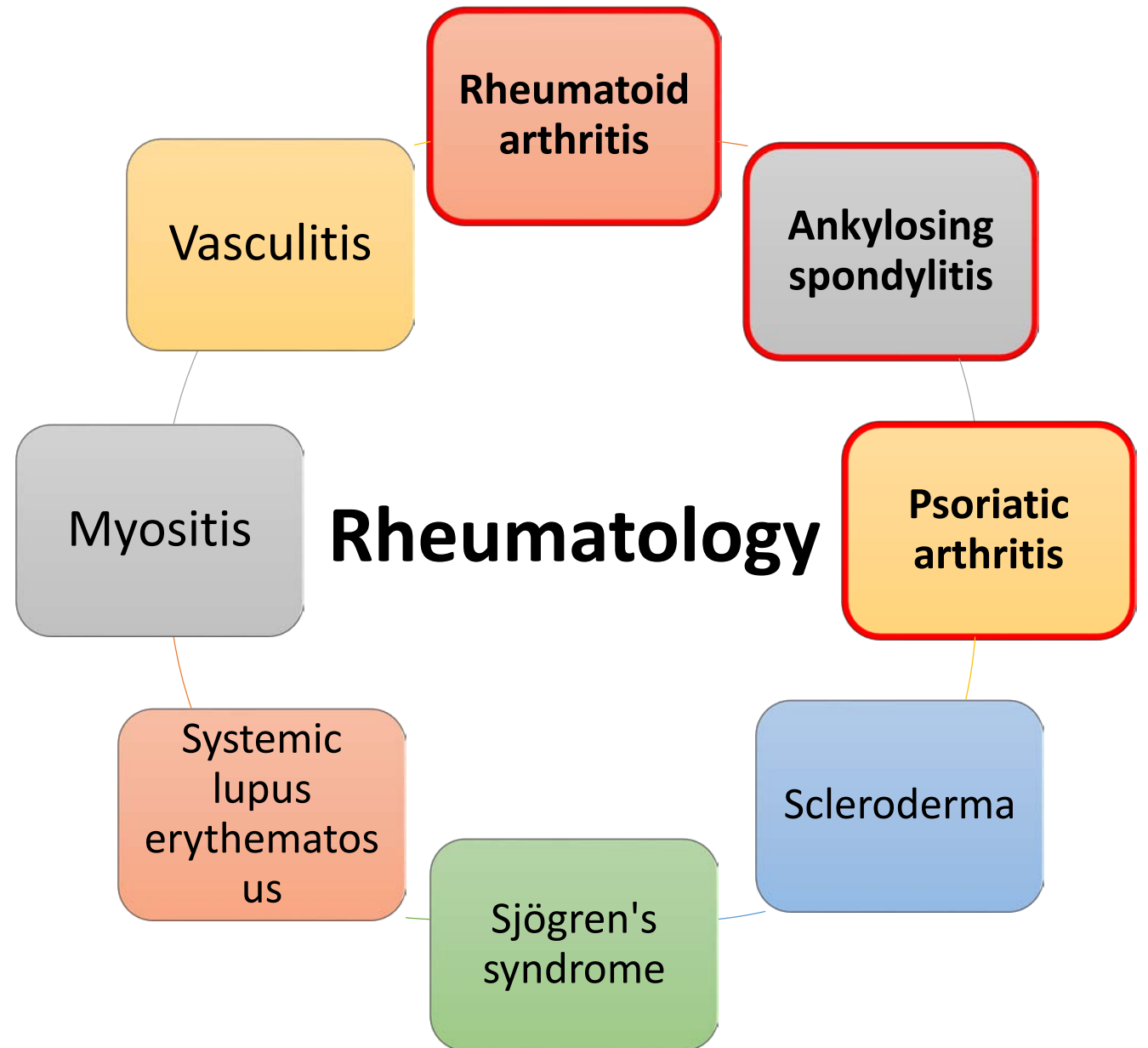
Shirley Yip  
Resident Pharmacist  
United Christian Hospital  
Hospital Authority

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# What is Arthritis?

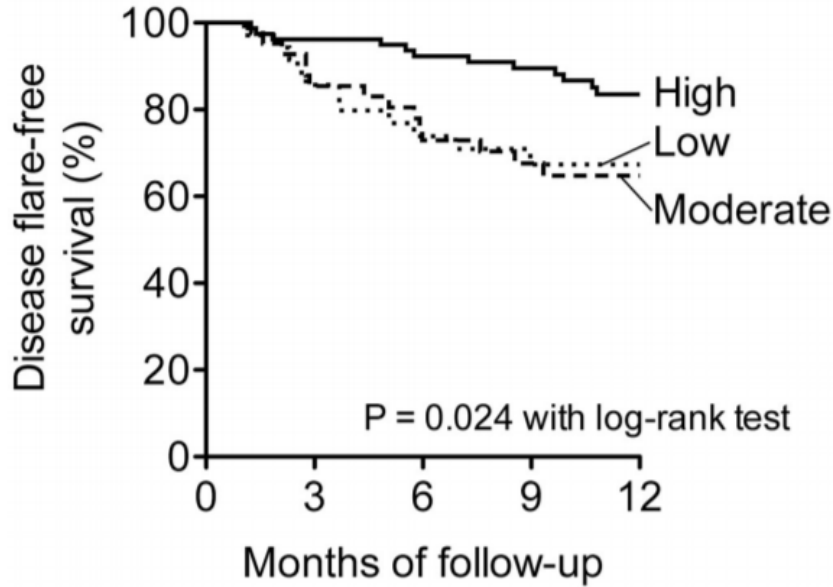
- 3<sup>rd</sup> leading chronic disorder among elderly
- Joint inflammation: pain, swelling and stiffness
- Joint deformation and long term disability



# Aims of study

- Enhance drug adherence and safety
- Identify drug-related problems
- Provide recommendations on side effects management
- Provide recommendations on drug-drug or drug-food interactions

## A. Disease duration, $\leq 4.6$ years.



| Study or subgroup  | Adherence Mean | SD   | Total        | Nonadherence Mean | SD   | Total      | Weight (%) | Mean difference IV, random, 95% CI | Mean difference IV, random, 95% CI |
|--|----------------|------|--------------|-------------------|------|------------|------------|------------------------------------|------------------------------------|
| Arshad et al <sup>15</sup>   | 4.38           | 1.1  | 77           | 5.32              | 0.92 | 23         | 16.2       | -0.94 (-1.39, -0.49)               |                                    |
| Cannon et al <sup>17</sup>   | 3.6            | 1.2  | 384          | 3.9               | 1.5  | 71         | 17.4       | -0.30 (-0.67, 0.07)                |                                    |
| Fransen et al <sup>19</sup>  | 5              | 1.1  | 208          | 4.8               | 1.12 | 203        | 19.5       | 0.20 (-0.01, 0.41)                 |                                    |
| Richards et al <sup>3</sup>  | 3.63           | 1.13 | 272          | 3.84              | 1.21 | 302        | 19.7       | -0.21 (-0.40, -0.02)               |                                    |
| Xia et al <sup>20</sup>  | 3.73           | 1.55 | 45           | 3.85              | 1.5  | 77         | 14.4       | -0.12 (-0.68, 0.44)                |                                    |
| Contreras-Yanez et al <sup>16</sup>  | 3.6            | 1.3  | 47           | 5.1               | 1.9  | 46         | 12.9       | -1.50 (-2.16, -0.84)               |                                    |
| <b>Total (95% CI)</b>  |                |      | <b>1,033</b> |                   |      | <b>722</b> | <b>100</b> | <b>-0.42 (-0.80, -0.03)</b>        |                                    |
| Heterogeneity: $\tau^2=0.19$ ; $\chi^2=38.81$ , $df=5$ ( $P<0.00001$ ); $I^2=87\%$ |                |      |              |                   |      |            |            |                                    |                                    |
| Test for overall effect: $Z=2.12$ ( $P=0.03$ )                                     |                |      |              |                   |      |            |            |                                    |                                    |

## Medication Adherence and Disease Control

- higher medication adherence is statistically significant associated with **lower flare rate** and **disease activity score (DAS-28)** in early stage RA.
- effective disease control at early stage prevents **irreversible joint damage**
- drug counseling has the **highest evidence** in improving medication adherence

# Measurement of Medication adherence and Disease activity

風濕科藥物依從性調查問卷

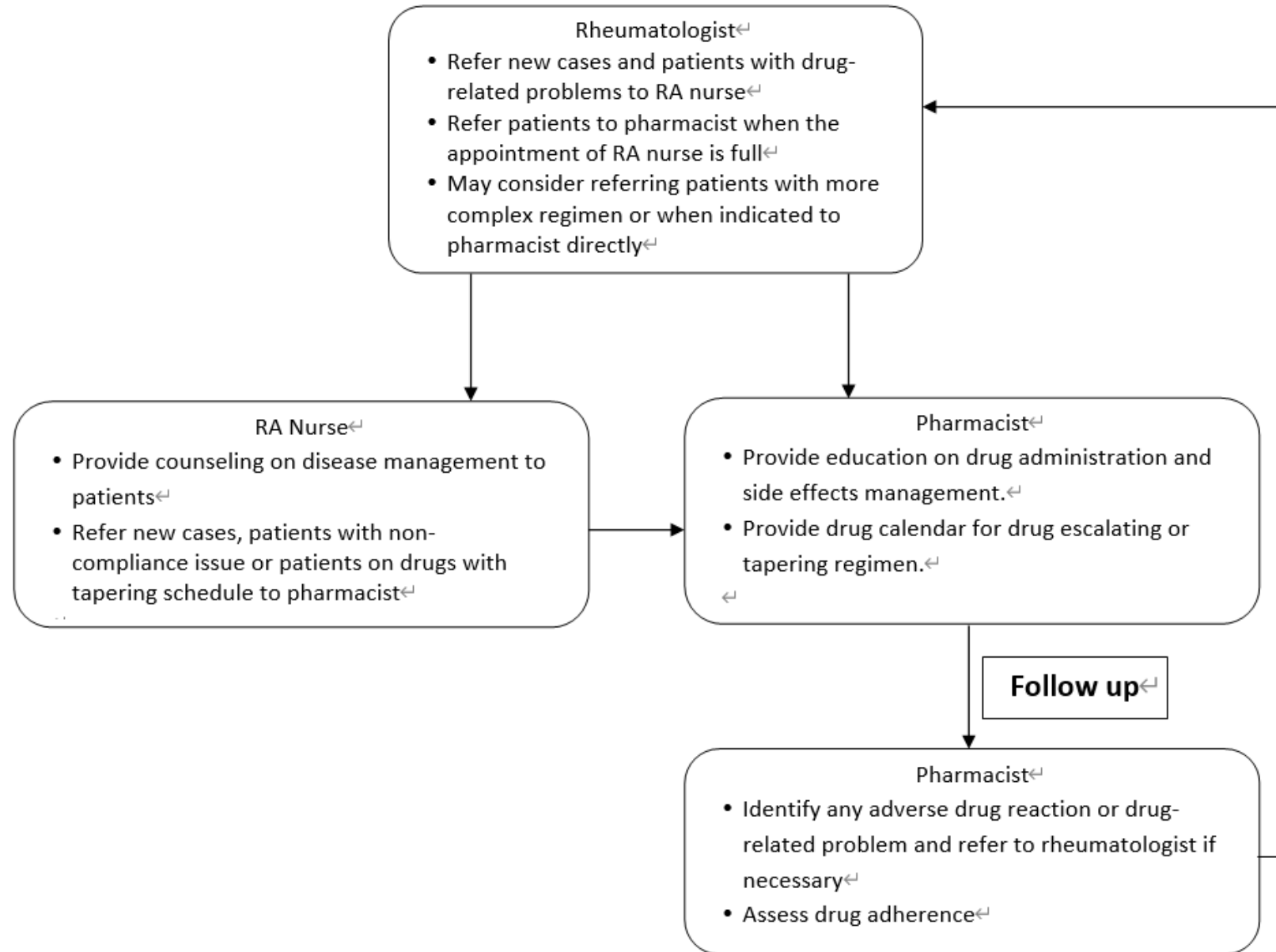
|  | 非常不同意 | 不同意 | 同意 | 非常同意 |
|--|-------|-----|----|------|
| 1. 如果風濕科醫生建議我服用藥物，我會跟從。                |       |     |    |      |
| 2. 我服食風濕科藥物來減輕風濕病對我造成的不便或影響。           |       |     |    |      |
| 3. 我完全不敢忘記服用任何一種風濕科藥物。                 |       |     |    |      |
| 4. 我會傾向選擇其他可行的治療方法而不是風濕科醫生處方的藥物。       |       |     |    |      |
| 5. 我的藥物會儲放在固定的地方，所以我不會忘記服藥。            |       |     |    |      |
| 6. 我服食藥物因為我完全信任風濕科醫生。                  |       |     |    |      |
| 7. 我服食藥物最重要的原因是我可以繼續做我想做的事情。           |       |     |    |      |
| 8. 我不喜歡服藥，如果我不服藥也不影響日常活動，我一定不會服藥。      |       |     |    |      |
| 9. 如果我放假或旅行，我有時候會忘記服藥。                 |       |     |    |      |
| 10. 我會服食風濕科藥物，如果不服藥也就不用來<br>看風濕科醫生了。   |       |     |    |      |
| 11. 我不會期望服食風濕科藥物能產生奇跡般的效果。             |       |     |    |      |
| 12. 如果我不能承受藥物引起的副作用，我可能會想：“不管了，把藥扔掉吧。” |       |     |    |      |
| 13. 如果我不按時服食風濕科藥物，炎症就會發作。              |       |     |    |      |
| 14. 如果我不服食風濕科藥物，身體會有反應，響起警號。           |       |     |    |      |
| 15. 身體健康對我來說是最重要的，如果我要依靠服藥來保持健康，我也會照做。 |       |     |    |      |
| 16. 我有使用藥盒。                            |       |     |    |      |
| 17. 我會完全依照醫生的說話去做。                     |       |     |    |      |
| 18. 如果我不服食風濕科藥物，我的不適會增加。               |       |     |    |      |
| 19. 周末外出時，我有時候會不服藥。                    |       |     |    |      |

- Disease Activity Score (DAS-28)
  - Rheumatoid arthritis
  - Psoriatic arthritis
- Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)
  - Ankylosing spondylitis

# Baseline medication adherence of arthritis patients recruited in the study

- Adherence: CQR-19 Score >80/100
- No. of patient: 42
- Mean CQR-19 score: 62/100 (Range: 50.9-77.2)
- No. of patient CQR-19 score >80/100: 0

# Multidisciplinary Collaboration Care





# Role of Rheumatology Pharmacists



## Drug administration

- escalating/tapering schedule
- drug-drug or drug-food interaction
- supplements



## Drug adherence

- onset of action of drugs
- Explain the long-term outcome



## Side effects management

- self monitoring
- telephone support



## Pain management

- physical exercise
- warm/cold compress
- NSAIDs
- low dose steroid prn use

# Role of Rheumatology Pharmacists



## Verification and dispensing

- Prescription Screening
- Drug dispensing



## Drug information

- Drug sample book maintenance
- Drug information enquiries



## Procurement

- Supply of drugs
- New drugs application

# Rheumatology Pharmacist Counseling Service

|                                |    |    |
|--------------------------------|----|----|
| $\frac{2}{12}$                 | 早上 | 1粒 |
| $\frac{9}{12}$                 | 早上 | 2粒 |
| $\frac{16}{12}, \frac{23}{12}$ | 早上 | 3粒 |
| $\frac{30}{12}, \frac{6}{1}$   | 早上 | 4粒 |
| 1/1起逢星期一早上 5粒。                 |    |    |

Drug Calendar

|             |       |      |
|-------------|-------|------|
| 抗瘧疾藥<br>金硅納 | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金硅納 | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金硅  | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金硅  | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金   | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金   | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金   | 柳氮磺吡啶 | 來氟米特 |
| 抗瘧疾藥<br>金   | 柳氮磺吡啶 | 來氟米特 |
| 甲氨蝶呤        | 柳氮磺吡啶 | 來氟米特 |
| 甲氨蝶呤        | 柳氮磺吡啶 | 來氟米特 |

Chinese Drug Name

|                |                                    |                  |
|----------------|------------------------------------|------------------|
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. |                  |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. |                  |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. |                  |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. |                  |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. |                  |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. |                  |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. | 如出現嚴重紅疹或癢，請停服此藥。 |
| 如有發燒或感染症狀，請停服。 | Omit if fever or active infection. | 如出現嚴重紅疹或癢，請停服此藥。 |
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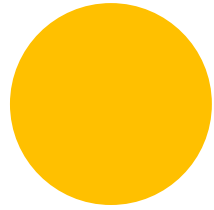
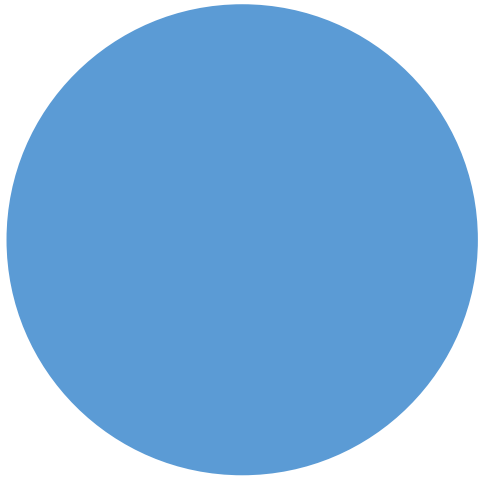
Warning Labels

- Provide drug calendar for escalating or tapering regimens.
- Provide Chinese drug name labels to facilitate communication.
- Provide warning labels to remain patients.

# Rheumatology Pharmacist Counseling Service



- Explain **slow onset of action** of anti-rheumatic drugs
- Discuss **long term consequence** for **uncontrolled** disease
- Provide recommendations on **administration method** to maximize drug effects or minimize side effects
- Advise on **self monitoring** of side effects and seek for medical help when necessary



# Cases Sharing



# Case 1

- KTY, 60y/o
- Diagnosed RA for 10 years
- Currently TJC 6 SJC 4
- Newly initiation of Methotrexate (MTX) escalating dose

**Drug Allergy:** (1) NO KNOWN DRUG ALLERGY

121312190413

## Prescription

- \* 1. METHOTREXATE tablet  
oral : 2.5 mg once (every 7 day) for 1 weeks, then  
5 mg once (every 7 day) for 2 weeks, then  
7.5 mg once (every 7 day) for 2 weeks, then  
10 mg once (every 7 day) for 2 weeks, then  
12.5 mg once (every 7 day) for 2 weeks, then  
15 mg once (every 7 day) for 5 weeks  
\*\*\* stop if significant oral ulcers or hair loss
- \* 2. FOLIC ACID tablet 5mg  
oral : 5 mg once (every 1 week) for 8 weeks  
\*\*\* the day after MTX
- \* 3. PREDNISOLONE tablet  
oral : 5 mg bd for 1 weeks, then  
4 mg bd for 1 weeks, then  
5 mg om and  
1 mg pm prn (100%) for 12 weeks

**Total Chargeable Units:**

Doctor's Signature

For Pharmacy Use Only (Ext. 4)

# Do we understand their difficulties?



After 3 months  
Follow up

Disease activity

- Little improvement on ESR, CRP
- TJC 4 SJC4
- Similar pain

What's the problem?

- Adherence: XYZ claimed that he took MTX every week
- Dose: MTX 5mg

Handwritten note on a piece of paper showing a medication schedule:

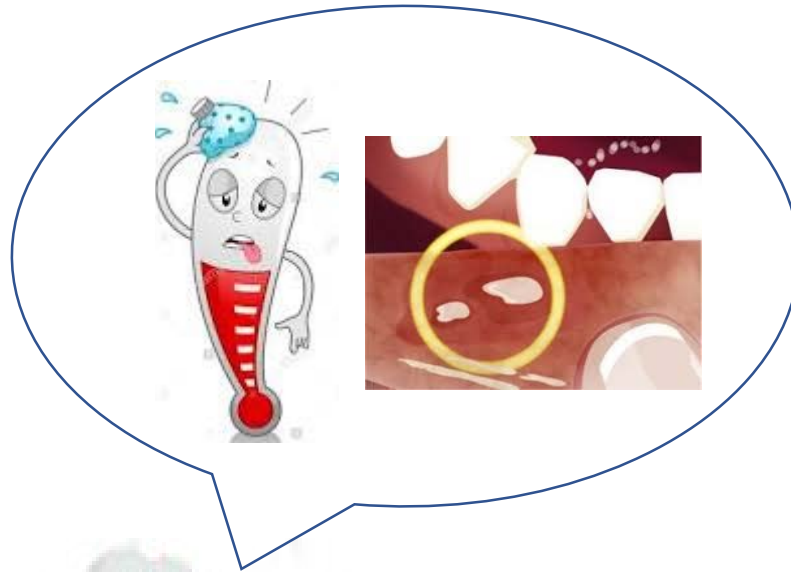
|                                |      |        |
|--------------------------------|------|--------|
| $\frac{2}{12}$                 | 早上   | 1粒     |
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| $\frac{16}{12}, \frac{23}{12}$ | 早上   | 3粒     |
| $\frac{30}{12}, \frac{6}{1}$   | 早上   | 4粒     |
| $\frac{13}{1}$ 起               | 逢星期一 | 早上 5粒. |

## Case 2

- LMY 67y/o
- Diagnosed PsA for 5 years
- On MTX 10mg weekly for 4years
- Currently increase MTX dose to 15mg weekly



# Side effects management



6 week  
Phone FU

Most patients when they encounter side effects

- Self stop the drug till next follow up
- Poor disease control

Our recommendations

- Advised to withhold MTX till fever subsided
- Advised to reduce MTX dose to 12.5mg weekly and monitor for any side effects.

# Conclusion

- Rheumatology pharmacists provide drug education to enhance medication adherence and safety.
- Rheumatology pharmacists provide recommendation on drug-related problems.
- Multidisciplinary Collaboration Service in rheumatology provides better patient care.