

## SPRAIN OR STRAIN

Prepared by: Miss Siti Nadiyah Dahlan



Anyone faces risk of getting injured, whether by playing sport, or doing normal daily activities at home or work. These injuries may involve soft tissues-muscles, tendons and/or ligaments. All of these injuries need immediate attention and treatment to prevent further damage. Ample time is required to allow full recovery of these injuries before being able to resume normal daily chores.

### DIFFERENCE OF SPRAIN & STRAIN

Sprain

- injury to a ligament (tissue that connects two or more bones at a joint). When a sprain happens, one or more ligaments is stretched or torn.
- happen due to forceful trauma
- Examples: falling and twisting ankle

Strain

- injury to a muscle or tendon (fibrous cords of tissue that connect muscle to bone). In a strain, a muscle or tendon is stretched or torn.
- can happen suddenly or develop over time
- Examples: lifting heavy object, sports

### TREATMENT

Once the injury occurs, think of **R.I.C.E** treatment for the first 48 hours. Use of pain-killers such as paracetamol or ibuprofen is also helpful.

Treatment	Explanation
<b>Rest</b>	Rest the injured part until it is less painful.
<b>Ice</b>	Place an icepack or cold compress over the injured part immediately. Continue for 10-20 minutes every 2 hours until swelling subsides. Wrap the ice or cold compress with fabric to avoid ice burn.
<b>Compression</b>	Apply bandage with minimum level of compression to help limit swelling.
<b>Elevate</b>	Raise the injured part above heart level to decrease swelling

### **RED ALERT!**

- 1) Increased bruising and severe pain when the injured part is touched or moved
  - 2) The injured part does not seem to be improving after 7 days
  - 3) A limb that looks "bent" – could be due to broken bone
  - 4) Signs of infection (increased warmth, redness, streaks, swelling, and pain)
  - 5) Numbness or a feeling of "pins and needles" in the injured area
- Please refer to doctor for more precise diagnosis and further treatment when these criteria are present.

#### References:

- 1) MedlinePlus. (2017) Sprains and Strains. [online] Available from: <https://medlineplus.gov/sprainsandstrains.html>
- 2) National Institute of Arthritis and Musculoskeletal and Skin Diseases. (2015) Sprains and Strains. [online] Available from: <https://www.niams.nih.gov/health-topics/sprains-and-strains#tab-treatment>

#### Inside this issue:

Sprain or Strain	1
Tuberculosis	2-3
Gout	4-5
Registered Medicine	6-7
Head Lice	8
DRESS	9
Pharmacy Activities	10

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## **INTRODUCTION OF TUBERCULOSIS:**

Tuberculosis (TB) is one of the top 10 causes of death worldwide, as well as remains a health problem in Malaysia leading to high rates of morbidity and mortality. TB is also one of the leading causes of death among people infected with HIV. With the arising of multidrug-resistant TB (MDR-TB), this has become a public health crisis which further adds on the burden of the disease.

## **BURDEN OF DISEASE IN MALAYSIA:**

According to World Health Organization, tuberculosis incidence is growing up gradually in the past two decades, however mortality is decreasing with the improving provision of tuberculosis treatment nationwide.

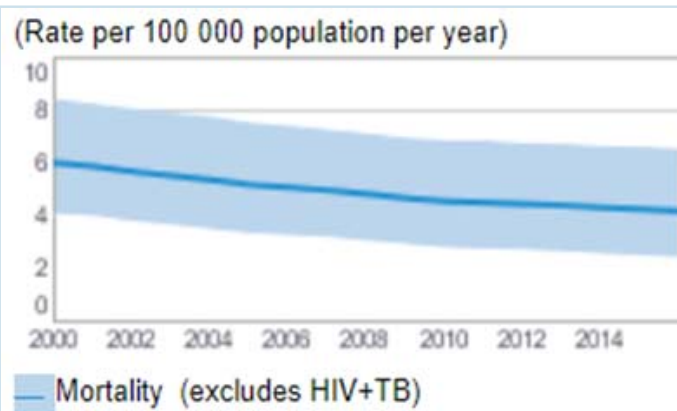
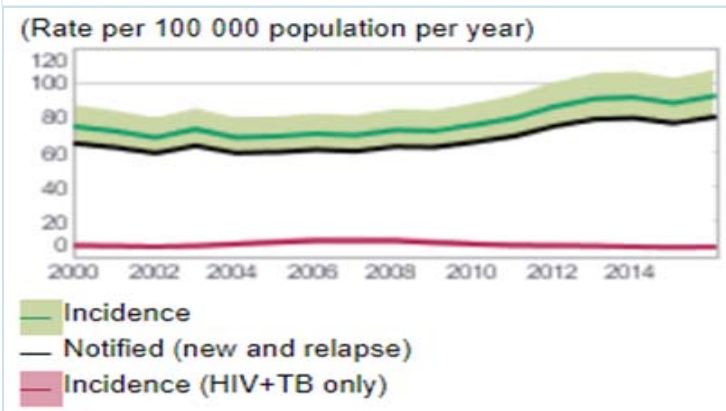


Figure 1 (Left): Estimates of TB incidence in 2016 in Malaysia.

Figure 2 (Right): Estimates of TB mortality in 2016 in Malaysia.

## **CAUSE OF TB:**

TB is caused by bacteria (*Mycobacterium tuberculosis*) that most often affects the lungs. It is very contagious by spreading through the air from person to person. When people with lung TB cough, sneeze or spit, they propel the TB bacteria into the air. A person just requires to inhale only a few of these to become infected.

TB may involve other places in the body, such as musculoskeletal, spinal cord, abdomen, head and neck. These are called extrapulmonary TB.

## **DIAGNOSIS :**

Many countries still rely on sputum smear microscopy to diagnose TB. Trained laboratory technicians will look at the sputum samples to see if TB bacteria are present. All patients suspected of having pulmonary TB should submit at least two sputum specimens for laboratory examination. Microscopy detects almost half of TB cases but cannot identify drug-resistance. Chest radiography can be used to aid diagnosis and management of pulmonary and extrapulmonary TB.

Active TB should be ruled out in all HIV-positive patients as HIV infection accelerates the development of TB from infection to advanced disease.

## **TREATMENT:**

Tuberculosis is curable and preventable with a standard 6 month course of 4 antimicrobial drugs – Rifampicin, isoniazid, pyrazinamide and ethambutol. The aim is to both cure and reduce risk of transmission to other people as it is an airborne infectious disease. Individuals with pulmonary and laryngeal TB are infectious, whereas those with extrapulmonary TB are regarded as noninfectious.



## **SYMPTOMS:**

When a person develops active TB disease, the symptoms (such as productive cough, fever, night sweats, or weight loss) may be mild for many months. Adult patients presenting with unexplained cough lasting more than 2 weeks should be investigated for TB.

Drug*	Recommended dose			
	Daily		3 times per week	
	Dose (range) in mg/kg body weight	Maximum in mg	Dose (range) mg/kg body weight	Daily maximum in mg
Isoniazid (H)	5 (4 - 6)	300	10 (8 - 12)	900
Rifampicin (R)	10 (8 - 12)	600	10 (8 - 12)	600
Pyrazinamide (Z)	25 (20 - 30)	2000	35 (30 - 40)*	3000*
Ethambutol (E)	15 (15 - 20)	1600	30 (25 - 35)*	2400*
Streptomycin (S)	15 (12 - 18)	1000	15 (12 - 18)*	1500*

Pyridoxine 10 - 50 mg daily needs to be added if isoniazid is prescribed.

\* Daily treatment is the preferred regimen.

Table 1: Dosages of first-line anti-TB drugs

Whenever possible, rifampicin should be used for the whole duration of treatment (ie. 6 months). Streptomycin can be used if patient is contraindicated to ethambutol. New patients with pulmonary tuberculosis should receive 4 agents (EHRZ) for 2 months (intensive phase), and continue with isoniazid and rifampicin for another 4 months (maintenance phase).

Regular monitoring of liver enzymes should be performed in patients on anti-TB treatment with pre-existing liver disease or at risk of **drug-induced hepatitis**.

In case of patients with **renal impairment**, there is significant renal excretion of ethambutol and metabolites of pyrazinamide, and doses should be adjusted. Hence these drug doses need to be adjusted and administered three times per week, instead of daily. For those undergoing haemodialysis, all four anti-TB drugs may be administered after haemodialysis to avoid premature drug removal. Streptomycin is generally avoided in renal failure patients due to toxicity.

### Multidrug-resistant TB (MDR-TB):

It is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the first-line anti-TB drugs. Drug resistance emerges when anti-TB medicines are used inappropriately. It is fortunate that MDR-TB is treatable and curable by using the second-line drugs but their options are limited and often require extensive chemotherapy (up to 2 years of treatment) with medicines that are expensive and toxic. Hence, Fixed-dose combinations (FDC) drugs came into light that it can help to improve patient's compliance by incorporating two or more drugs in one single tablet, and therefore reduce the number of pills that need to be consumed. The most commonly used FDC here is Akurit-4 which contain ethambutol 275mg, isoniazid 75mg, rifampicin 150mg and pyrazinamide 400mg. The recommended dosages are as following:

Body weight	Dosage of Akurit-4
30 – 37 kg	2 tablets daily
38 – 54 kg	3 tablets daily
55 – 70 kg	4 tablets daily
More than 70 kg	5 tablets daily



### Direct Observed Therapy (DOT):

This is the most effective strategy to ensure adherence and good management practice. It can be home-based or clinic-based DOT. Enhanced DOTS involving intensive contact tracing and treating the contacts with TB can reduce incidence of TB within a community.

### Conclusion:

There are still much more efforts need to be done to counter TB. It is contagious and with lengthy treatment period, all health-care professionals shall cooperate to reduce the TB burden of disease in our country.

#### References:

WHO  
CPG Tuberculosis

## WHAT IS GOUT?

- Gout is painful form of arthritis
- It is caused by build-up of uric acid in body as follow:



- Purine is a protein substance found in our body and also found in some food such as liver, beans, and anchovies.



- Normally uric acid excreted by kidney in urine.
- However, uric acid accumulate in body leading to hyperuricemia when:
  - amount of uric acid produced by body is high
  - poor excretion of uric acid by kidney
  - high consumption of purine rich food



- Most people with hyperuricemia do not develop gout.
- Hyperuricemia increases risk of uric acid crystal formation in the joints leading to gout

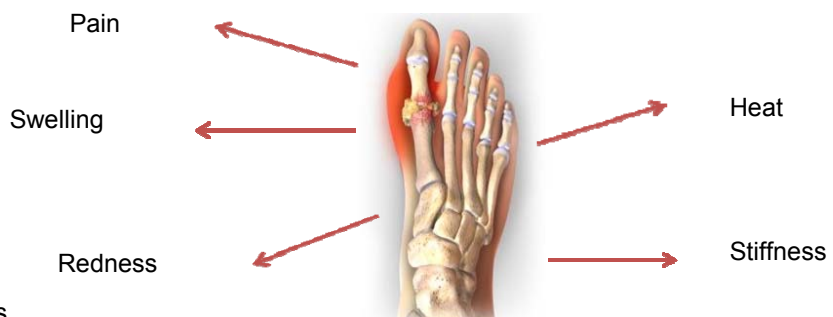
## WHAT ARE THE SIGNS AND SYMPTOMS OF GOUT?

- Gout usually occur at only 1 joint at a time, commonly in big toe and less commonly at other joints such as ankle, knee, elbow, and fingers.
- Gout attack can start suddenly and last for few days or weeks followed by long period of time weeks, months or years without symptoms before another flare begins.
- Common symptoms are:

## WHO CAN GET GOUT?

You are more likely to get gout if you:

- Have family history of gout
- Male gender
- Overweight or obese
- High consumption of alcohol
- Consumption of purine rich of food
- On certain medication such as diuretics



## HOW DOES GOUT TREATED?

### MANAGING ACUTE GOUT ATTACK

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• NSAIDS, eg: diclofenac, ibuprofen, indomethacin</li> <li>• Steroids, eg: prednisolone, injection of steroid to inflamed joint</li> <li>• Colchicine</li> </ul> | <ul style="list-style-type: none"> <li>• NSAIDS may cause gastric pain. This can be avoided by taking NSAIDS after food</li> <li>• Steroids may cause hyperglycemia, weight gain, and reduced immune system. Normally steroid taken for short term</li> <li>• Colchicine may cause nausea, vomiting and diarrhoea</li> </ul> |
|---|--|

### PREVENTING FUTURE GOUT ATTACK

- Take tablet at the very beginning of attack to have better control of symptoms
- Make changes in diet & lifestyle
- Avoid excessive alcohol. Alcohol can raise uric acid level in body.
- Drink plenty of water. This helps in excretion of uric acid from the kidney.
- Watch out for what you eat!!

HIGH PURINE FOOD (AVOID)	MODERATE PURINE FOOD (EAT IN MODERATION)	LOW PURINE FOOD
<ul style="list-style-type: none"> <li>- Offal: liver, lungs, brain</li> <li>- Anchovies, mackerel, sardine</li> <li>- Meat &amp; yeast extracts: minced meats, marmite beer</li> <li>- Seafood: crab, prawn, seashell</li> </ul>	<ul style="list-style-type: none"> <li>- Asparagus, cauliflower, mushroom, spinach</li> <li>- Peanuts, lentil, beans and peas</li> <li>- Poultry: chicken, duck</li> <li>- Bran, oatbran, wholemeal bread</li> </ul>	<ul style="list-style-type: none"> <li>- Dairy: milk, cheese, yoghurt, butter</li> <li>- Eggs</li> <li>- Bread and cereals (except wholegrain)</li> <li>- Pasta and noodles</li> </ul>

### MANAGING CHRONIC GOUT

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Chronic gout is the recurrent gout attack that occur <math>\geq 2</math> attack per year.</li> <li>• Chronic gout may lead to many complications such as uric acid deposition under the skin known as tophi which can cause deformation of joint besides kidney stone formation.</li> <li>• Hypouricemic drugs such as allopurinol, febuxostat are given to reduce uric acid level in blood.</li> </ul> | <ul style="list-style-type: none"> <li>• The commonly used allopurinol side effect is rash.</li> <li>• In chronic gout, initially NSAID or colchicine are given concomitantly with allopurinol. This is because the first 6 month of hypouricemia drug therapy can precipitate acute gout attack.</li> </ul> |
|--|--|

#### References:

1. (2018). Retrieved from <http://www.myhealth.gov.my/en/gout-5/>
2. (2018). *Ukgoutsociety.org*. Retrieved from <http://www.ukgoutsociety.org/docs/goutsociety-allaboutgoutanddiet-0113.pdf>
3. *Gout | Arthritis Basics | CDC*. (2018). *Cdc.gov*. Retrieved from <https://www.cdc.gov/arthritis/basics/gout.html>

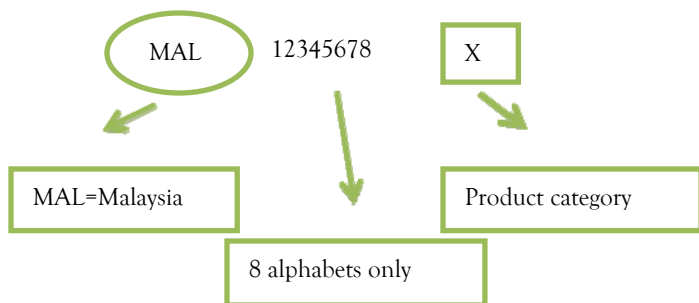


# SMART CONSUMER CHOOSE REGISTERED MEDICINE

Prepared by: Miss Thisanthi

## REGISTERED MEDICINE

- **Registered medicine** includes pharmaceutical and traditional medicines.
- Drug Control Authority (DCA) approves medicine to be sold or used by consumers in Malaysia after evaluating their quality, safety, and efficacy.
- Registered medicine has registration number printed on the label and packaging of medicine.
- Eg:



### Product category

A:Controlled and prescription medicine

Eg: Diabetes medications

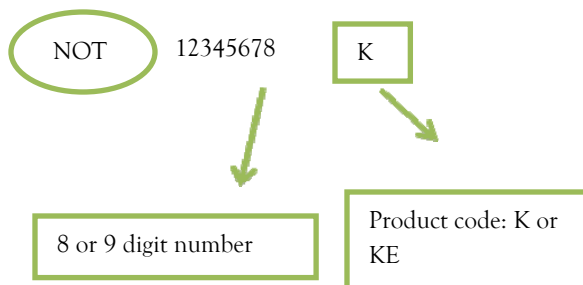
X:Over the counter medications (OTC)

Eg: Paracetamol

T:Traditional medicine

N:Health supplements

- All **cosmetic products** marketed in Malaysia must first be notified to the National Pharmaceutical Regulatory Control (NPRA)
- Only notified products may legally be imported or manufactured for sale in the country.
- However, unlike registration number, notification number not necessarily be displayed on label or product packaging.
- Eg:



## UNREGISTERED MEDICINE

**MYTH:** Traditional health products are safe and do not possess any side effect

### TRUTH:

- Health products that are not registered under DCA do not follow Good Manufacturing Practice (GMP).
- Unregistered product manufacturing is not controlled thus carrying risk of contamination by heavy metals or bacteria.
- Commonly, unregistered products are adulterated with other ingredients such as controlled medicine.
- Sex stimulant Sildenafil, Sibutramine in slimming pills and steroids are frequently found in unregistered products.
- These drugs should be prescribed by medical practitioners upon examining patient thoroughly depending on their medical conditions. However, Sibutramine is banned in Malaysia as it observed to increase risk of heart attack and strokes.

# SMART CONSUMER CHOOSE REGISTERED MEDICINE - CONTINUES

How to check whether medicine or cosmetic is registered or not?



- Visit <http://npra.moh.gov.my>
- Click on <Quest product search>
- Enter product name or registration number or active ingredient or manufacturer's name
- Click <search> and only registered product details will appear

OR



- Use Meditag decoder available in pharmacy.
- Find out more about it from your pharmacist.



- Download "Meditag checker" app in phone.
- Scan Meditag hologram of the product.
- Status of product genuine or not will be showed.

OR

Call National Pharmacy Call Center at 1 800 886 722 to get more details on medicine and its authenticity.



## References:

(2018). Retrieved from <http://www.myhealth.gov.my>  
*Know Your Medicine*. (2018). [Knowyourmedicine.gov.my](http://www.knowyourmedicine.gov.my/). Retrieved from <http://www.knowyourmedicine.gov.my/>  
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## WHAT ARE HEAD LICE?

The head louse, *Pediculus humanus capitis*, is an ectoparasite feeding on human blood about 5-6 times a day. It is small, flat, and has grey coloured body that turns reddish after feeding. Head lice cannot jump, fly, and swim. They can only crawl swiftly through the hair, holding on tightly with their claws. Besides that, they can survive underwater, so will not leave the head during swimming and bathing


Head lice affect people of all ages and walks of life globally. They usually occur amongst school children before spreading to adults in their families. Contracting head lice are not a sign of poor personal hygiene and they are also not known to cause or spread other diseases. Although there is no sure way to prevent head lice, the condition can be managed effectively with proper use of the correct hair product, and regular hair checks.

Signs of Head Lice	Description
Itchiness and Scratching	Lice favour the back of the scalp and neck, and behind the ears. Scratching can cause crusting and scaling on the scalp. Note that not all children complain of itchiness.
White specks (nits or eggs)	Stuck firmly to the base of hair very close to the scalp. Nits are generally easy to see after the eggs have hatched or dead, as adherent white grains on the hair.
Red brown spots on skin	Due to excreted digested blood.

## HOW ARE HEAD LICE DIAGNOSED?

### Wet-Combing Method

- 1) Use fine-tooth lice comb.
- 2) Apply conditioner to dry hair and comb it through. The conditioner helps to stun the lice for about 20 minutes, which helps detect and trap them.
- 3) Then, use the lice comb and comb through the hair carefully, section by section.
- 4) Wipe the conditioner from the lice comb onto a paper towel or tissue and look for lice and eggs.
- 5) Unhatched eggs are mostly located near to the scalp and have a dark area within the shell
- 6) Hatched eggs are transparent or whitish. They are not infectious and may persist after successful treatment unless physically removed.

Type of treatment	Description
Chemical 	<ol style="list-style-type: none"> <li>1) Head lice products such as permethrin, malathion and benzyl alcohol lotion.</li> <li>2) Lindane shampoo is a second-line treatment. Only can be used if the other treatments failed due to its central nervous system toxicity.</li> </ol>
Physical (wet-combing method)	Used in conjunction with chemical treatment May be required every 2-3 days until no head lice are found for 10 days in a row.
Other (Note that these treatments have not been extensively studied)	<u>Natural Oils</u> <ol style="list-style-type: none"> <li>1) For example, use olive, corn or sunflower oil, cover with a shower cap and leave overnight.</li> <li>2) Repeat treatment every 2-3 days for 3 weeks, until no lice are found.</li> <li>3) Shave head or cutting hair very short is effective but rarely necessary.</li> <li>4) Exposure to hot air dryer for 30 minutes every day over a period of 1 month helps to destroy live eggs.</li> </ol>

### Self-Care

- 1) Tie back long hair to prevent it from coming in contact with other people's hair and cause further spread.
- 2) Do not share hair brush or comb and other personal products with other family members.
- 3) Cut fingernails to prevent scratching which can cause infection on the scalp.
- 4) Check the hair of the whole family members during on-going head lice problem. After the issue has gone, check the hair once a week.

#### References:

1. Centres for Disease Control and Prevention (CDC). (2016) *Parasites-Lice-Head Lice*. [online]
2. Lamb, S. (1998; updated 2015) *Head Lice*. [online] Available from: <https://www.dermnetnz.org/topics/head-lice/>
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# DRUG REACTION WITH EOSINOPHILS AND SYSTEMIC SYMPTOMS

Prepared by: Miss Latha Devi

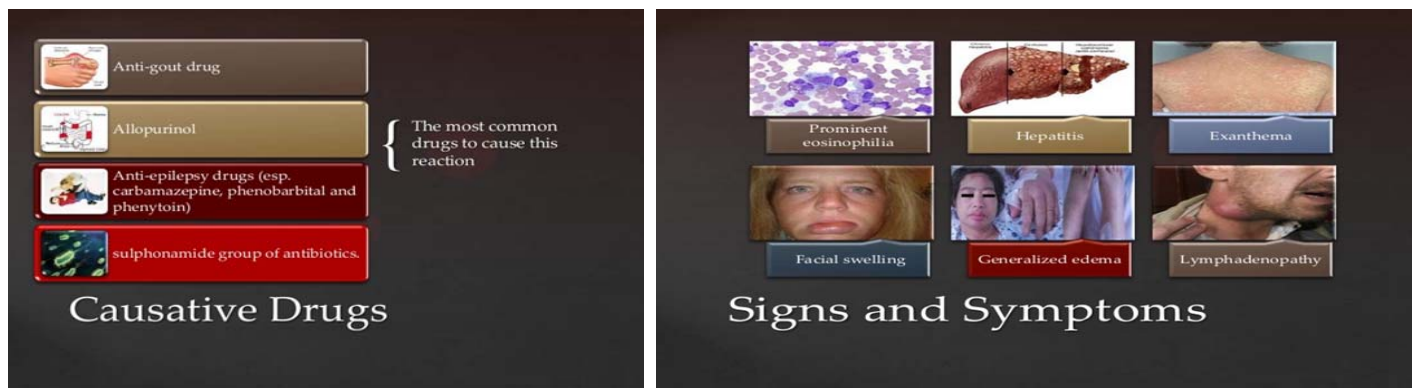
## DEFINITION

Drug reaction with eosinophilia and systemic symptoms (DRESS) is a rare, potentially life-threatening, drug-induced hypersensitivity reaction that includes skin eruption, hematologic abnormalities (eosinophilia, atypical lymphocytosis), lymphadenopathy, and internal organ involvement (liver, kidney, lung).

DRESS is characterized by a long latency (two to eight weeks) between drug exposure and disease onset, a prolonged course with frequent relapses despite the discontinuation of the culprit drug, and frequent association with the reactivation of latent human herpesvirus infections

## Differentiating DRESS SYNDROME from Other Diseases

DRESS syndrome must be differentiated from other diseases that cause fever, rash, and visceral involvement, such as exanthematous pustulosis, psoriasis, Still's disease, toxic epidermal necrolysis, Stevens-Johnson syndrome, lymphoma, serum sickness, drug-induced liver injury, and Staphylococcal scalded skin syndrome.



## CLINICAL PRESENTATION

DRESS syndrome most commonly manifests two to eight weeks after starting the offending medicine, with a mean onset of three weeks. Upon re-challenge with the associated medicine symptoms may recur within one day; however symptoms may also flare up three to four weeks after stopping the medicine, even after initial improvement. Patients routinely develop fever early on in the disease process, followed by the development of rashes. These may vary from a very mild exanthem to extensive blistering and skin loss, but is more often a pruritic, macular erythema which may contain papules, pustules or vesicles. Systemic involvement commonly manifests as lymphadenopathy, hepatitis, pericarditis, interstitial nephritis or pneumonitis. Auto-immunity may develop as a sequelae to DRESS. If DRESS syndrome is suspected, prescribers are reminded to look beyond the skin as the severity and extent of skin involvement does not always correlate with the extent of internal organ involvement. Diagnosis can be difficult due to the variable presentation of the syndrome and is more often obtained by exclusion. Symptoms such as rash, fever, and organ involvement can be attributed to a wide range of other causes. In addition, the long latency period following initiation or after stopping the medicine creates difficulties in diagnosis. The European Registry of Severe Cutaneous Adverse Reactions to Drugs and Collection of Biological Samples (RegiSCAR) is a consortium created to reduce the burden of severe cutaneous reactions. This consortium has produced diagnostic criteria to assist in the diagnosis of DRESS syndrome.

## MANAGEMENT

DRESS syndrome must be recognized promptly and the causative drug withdrawn. Indeed, it has been reported that the earlier the drug withdrawal, the better the prognosis. Treatment is largely supportive and symptomatic; corticosteroids are often used, but the evidence regarding their effectiveness is scant. Other immunosuppressants, such as cyclosporin, may also be required.

## REFERENCES

- <https://www.uptodate.com/contents/drug-reaction-with-eosinophilia-and-systemic-symptoms-dress>
- <http://www.jiaci.org/issues/vol15issue04/9.pdf>
- Medscape

# AKTIVITI FARMASI DARI JAN 2018 SEHINGGA MEI 2018



**AKTIVITI-AKTIVITI KENALI UBAT ANDA**



**PERTANDINGAN BOLA JARING**

**LAWATAN DARI BAHAGIAN FARMASI**



**SAMBUTAN HARI JADI KAKITANGAN FARMASI**



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