

# Raynaud's phenomenon



*Presented by Dr.*

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# WHAT IS RAYNAUD'S DISEASE??

- ✦ Raynaud's is a rare disorder that affects the arteries.
- ✦ Raynaud's is also called a disease, syndrome, or phenomenon.
- ✦ Vasospasm, which is a narrowing of the blood vessels.
- ✦ Vasospasm of the arteries reduces blood flow to the fingers and **toes**.
- ✦ Also may occur at the tip of ears and nose.

# What is RP?

Is defined episodic attack of vasospasm that affects digital blood vessels mainly arterioles resulting in tri-phasic color changes in response to cold exposure or emotional stimuli.



# Raynaud's Phenomenon



# Raynaud's

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- Phenomenon
- Disease
- Syndrome

# But who is Raynaud?

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- **Auguste Gabriel Maurice Raynaud** (10 August 1834 – 29 June 1881), is the French doctor. He commenced his medical studies at the [University of Paris](#)



# Causes

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- Primary (idiopathic)
- secondary

# Primary cause

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- Blood vessel healthy but more sensitive to cold
- Not associated with any systemic disease
- This is also known as raynaud's disease

# Secondary cause

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- Occurs due to impairment of blood supply
- Associated with trauma or any systemic disease
- This is also known as raynaud's syndrome
- Systemic diseases or disorders associated with are

# Systemic disorders

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- **I.connective tissue disorders**

- 1.scleroderma
- 2.systemic lupus erythematosus(SLE)
- 3.rhumetoid artheritis
- 4.dermatomyositis
- 5.polyarteritis

- **II.Obstructive arterial disease**

- 1.atherosclerosis
- 2.buerge's diseas.
- 3.thorasis outlet syndrome

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- **III. Occupational and environmental conditions**

- 1.vibration injury

- 2.cold injury

- **IV. Drugs**

- 1.ergotamine

- 2.beta blockers

- 3.cytotoxic drugs

- 4.OC pills

- **V. Miscellaneous**

- 1.cold agglutinins

- 2.cryoglobulinemia

- 3.neurological disorders

- 4.neoplasia

# Raynaud's Phenomenon

	<b>Primary</b>	<b>Secondary</b>
<i>Sex</i>	Female	Male and Female
<i>Age of Onset</i>	Menarche	Mid 20's or later
<i>Frequency of Attacks</i>	>10 day	0-5 a day
<i>Finger Edema</i>	No	Frequent
<i>Periungual erythema</i>	Rare	Frequent
<i>Arthritis</i>	No	Frequent
<i>Nail fold capillaroscopy</i>	Normal	Dilated tortuous capillaries
<i>Autoantibodies</i>	Absent	Present

# Risk factors

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- 1. Age-Usually begins between 15 years old and 40 years old
- 2. Sex-More common in women than men
- 3. Site-most common in hands but can also occur in the ear ,feet, nose,and lips also

# Pathophysiology

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- Actual pathology is not known
- Several concepts are there like
- Raynaud's concept -over action of nerves
- Lewis's concept -simple hypersensitivity to cold
- Burn and randy's concept -local excess of vaso-constrictive agents like catecholamine
- Peacock's concept -inhibition of amino-oxidase
- Recent study-increased activity of alpha 2 receptors

# 3 stages(WBC)

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- 1.stage of local syncope (stage of blanching)
- 2.stage of local asphyxia (stage of anoxia)
- 3.stage of local recovery (stage of engorgement )

# Symptoms

- ◆ Swelling, tingling, aching, throbbing
- ◆ Change in skin color (blue, purple, white)
- ◆ Numbness
- ◆ Pain
- ◆ Sores

Episodes last about 15 minutes



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# EXAMINATION

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- **History**

- Severity, age of onset, gender, symptoms of any systemic diseases like CTD etc
- Clinical examination
- Radial pulses
- Skin changes
- Nail fold changes
- Joint disease
- Carpal Tunnel Syndrome

- **Laboratory investigations**

- FBC, U&E, LFT, CRP, TSH
- Autoimmune profile
- Nailfold capillaroscopy
- Infrared thermography
- Doppler study

# Non-Drug Treatment/Prevention

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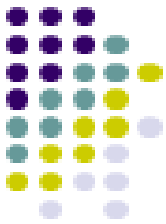
# Non-Drug Treatment/Prevention

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- Stay warm
- Quit Smoking
- Reduce Stress and alcohol consumption
- Exercise
- Avoids tools that vibrate
- See a doctor regularly
- Medication that can aggravate blood vessel spasm should be avoided by patients with RP

# Drugs

## Promoting vasodilation



- **Calcium channel blockers**
  - Dihydropyridine
    - Nifedipine better than amlodipine
- **Nitrates**
  - Transdermal or oral
- **Prostaglandins**
  - IV (disappointing results with oral preparation)
- **Phosphodiesterase V inhibitors**
  - Under investigation. Remain expensive.

# Preventing vasoconstriction

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- **ACEi**
- e.g. losartan
- May be better in primary RP
- **Alpha adrenoceptor blockade**
- e.g. prazosin
- **SSRIs**
- e.g. fluoxetine
- May be better in primary Raynaud's
- **Endothelin receptor antagonists**
- e.g. bosentan
- Reserved for use in CTD

## Primary Raynaud's disease

lifestyle modification

avoidance of cold exposure  
sufficient protection  
smoking cessation  
avoidance of  
sympathomimetic drugs

vasodilatory treatment

topical nitrates  
long acting CCB

## Secondary Raynaud's phenomenon

lifestyle modification

### treatment of underlying disease

avoidance of cold exposure  
sufficient protection  
smoking cessation  
avoidance of  
sympathomimetic drugs

stable  
condition

long acting CCB

long acting CCB  
+  
nitrate or PDE-V-I

additional  
statin and/or  
ARB

severe ischemia /  
digital ulcers

CCB and/or nitrates  
aspirin and/or heparin  
prostaglandins  
PDE-V-I (off-label)

prevention of  
digital ulcers

bosentan in patients  
with systemic sclerosis  
PDE-V-I (off-label)

# Surgical management

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- Sympathectomy (cervico dorsal)
- amputation

Any questions?



THANK

YOU