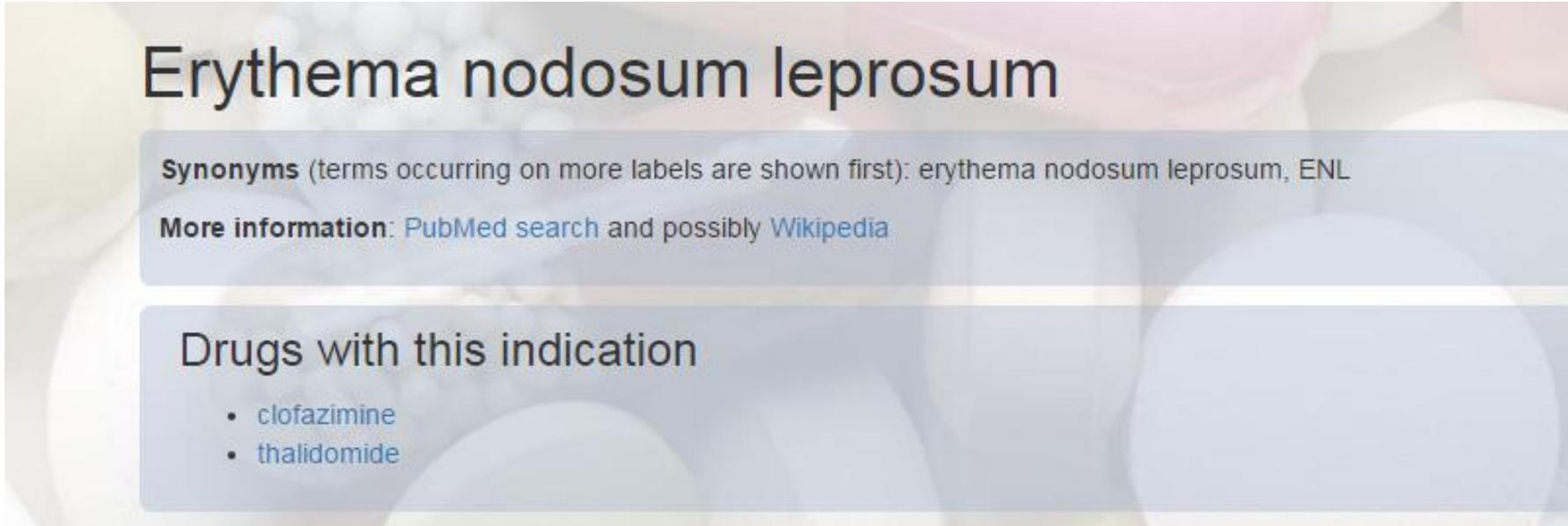


New Uses of Old Drugs

王凯

1.viagra (Sildenafil) OMIM:603310 HP:0012219 Erythema nodosum

Cardiovascular diseases(心血管疾病) → erectile dysfunction → severe erythema nodosum leprosum



Erythema nodosum leprosum

Synonyms (terms occurring on more labels are shown first): erythema nodosum leprosum, ENL

More information: [PubMed search](#) and possibly [Wikipedia](#)

Drugs with this indication

- [clofazimine](#)
- [thalidomide](#)

<http://sideeffects.embl.de/se/C0343467/>

Figure 1 drugs with erythema nodosum leprosum

Clindamycin	The metabolism of Clindamycin can be decreased when combined with Sildenafil.
Clobazam	The metabolism of Clobazam can be decreased when combined with Sildenafil.
Clofazimine	The metabolism of Clofazimine can be decreased when combined with Sildenafil.
Clofibrate	The metabolism of Clofibrate can be decreased when combined with Sildenafil.
clomethiazole	The metabolism of clomethiazole can be decreased when combined with Sildenafil.

Tetracycline	The metabolism of Tetracycline can be decreased when combined with Sildenafil.
Thalidomide	The metabolism of Thalidomide can be decreased when combined with Sildenafil.
Theophylline	The metabolism of Theophylline can be decreased when combined with Sildenafil.
Thiamylal	The metabolism of Thiamylal can be decreased when combined with Sildenafil.
Thiobarbitone	The serum concentration of Thiobarbitone can be increased when it is combined with Sildenafil.

Figure 2 interaction between clofazimine, thalidomide and sildenafil

<https://www.drugbank.ca/drugs/DB00203#interactions>

A screenshot of a list of side effects for sildenafil. The list is displayed in a scrollable view with alternating light and dark grey background rows. Each row contains a side effect name and a small blue circular icon with a white lowercase 'i' to its right. The side effects listed are: Shoulder pain, Skin disorder (with 'Skin' highlighted in orange), Skin ulcer (with 'Skin' highlighted in yellow), Speech disorder, and Stomatitis.

Shoulder pain	i
Skin disorder	i
Skin ulcer	i
Speech disorder	i
Stomatitis	i

<http://sideeffects.embl.de/drugs/5212/>

Figure 3 the side effects of sildenafil

2.thalidomide(沙利度胺)

sedative,morning sickness pregnant → severe erythema nodosum leprosum

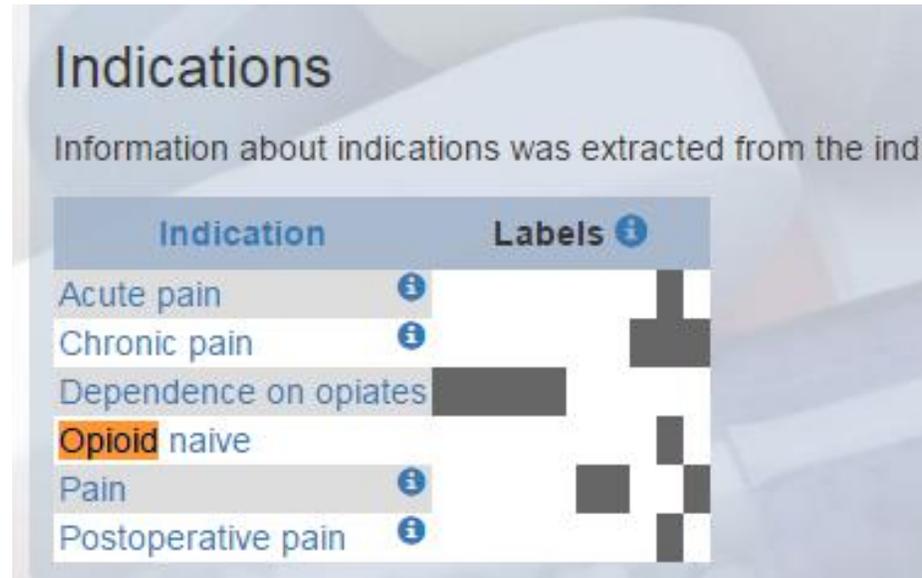
```
OMIM:600045 DDB1 1642 HP:0001939 Abnormality of metabolism/homeostasis
OMIM:600045 DDB1 1642 HP:0000007 Autosomal recessive inheritance
OMIM:600045 DDB1 1642 HP:0000951 Abnormality of the skin
OMIM:600045 DDB1 1642 HP:0000007 Autosomal recessive inheritance
```

Figure 4 thalidomide in “HPO_diseases_to_genes_to_phenotypes.txt”

Pharmacology: For the acute treatment of the cutaneous manifestations of moderate to **severe erythema nodosum leprosum** (ENL). Also for use as maintenance therapy for prevention and suppression of the cutaneous manifestations of ENL recurrence.

3.buprenorphine(丁丙诺菲)

control of moderate pain ———> interruption and maintenance of heroin and other opioid addictions



Indications

Information about indications was extracted from the indications

Indication	Labels
Acute pain	
Chronic pain	
Dependence on opiates	
Opioid naive	
Pain	
Postoperative pain	

<http://sideeffects.embl.de/drugs/2476/>

Figure 5 the indications of buprenorphine

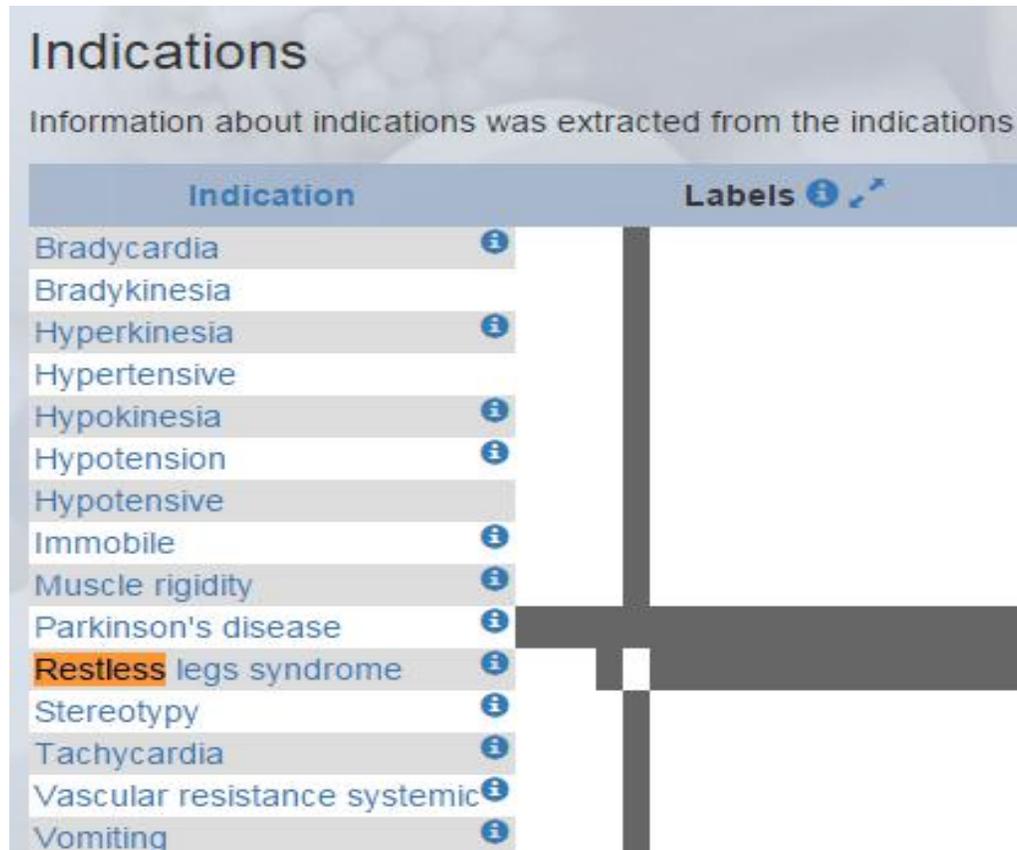
Description: It appears to act **as a partial agonist** at mu and kappa opioid receptors and **as an antagonist at delta receptors**. The lack of delta-agonist activity has been suggested to account for the observation that buprenorphine tolerance **may not develop with chronic use**.

<https://www.drugbank.ca/drugs/DB00921>

target genes	OPRM1	4988	an agonist at Mu-type opioid receptor
	OPRK1	4986	an antagonist at Kappa-type opioid receptor
	OPRD1	4985	an antagonist at Delta-type opioid receptor

4.requip(Ropinirole力必平) HP:0012452 Restless legs

parkinsonian → restless legs syndrome,SSRI-induced sexual dysfunction



Indication	Labels
Bradycardia	
Bradykinesia	
Hyperkinesia	
Hypertensive	
Hypokinesia	
Hypotension	
Hypotensive	
Immobile	
Muscle rigidity	
Parkinson's disease	
Restless legs syndrome	
Stereotypy	
Tachycardia	
Vascular resistance systemic	
Vomiting	

<http://sideeffects.embl.de/drugs/5095/>

Figure 6 indications of requip

Description:It is used in the treatment of Parkinson's disease, and is also one of two medications in the United States with an FDA-approved indication for the treatment of **restless legs syndrome**

<https://www.drugbank.ca/drugs/DB00268>



<http://sideeffects.embl.de/se/C0549622/>

Figure 7 drugs with sexual dysfunction

Pargyline	The metabolism of Ropinirole can be decreased when combined with Pargyline.
Paroxetine	The metabolism of Paroxetine can be decreased when combined with Ropinirole.
Pazopanib	The metabolism of Pazopanib can be decreased when combined with Ropinirole.

Figure 8 interaction between paroxetine and requip

5. colesevelam(考来维仑) HP: 0009800 Maternal diabetes

diet, reduce elevated LDL-cholesterol → glycemic control for diabetes(糖尿病)

Structured Indications ⓘ

- Heterozygous Familial Hypercholesterolemia
- Hyperlipidemias
- Type 2 Diabetes Mellitus (T2DM)

<https://www.drugbank.ca/drugs/DB00930>

<http://sideeffects.embl.de/drugs/160051/>

Indications

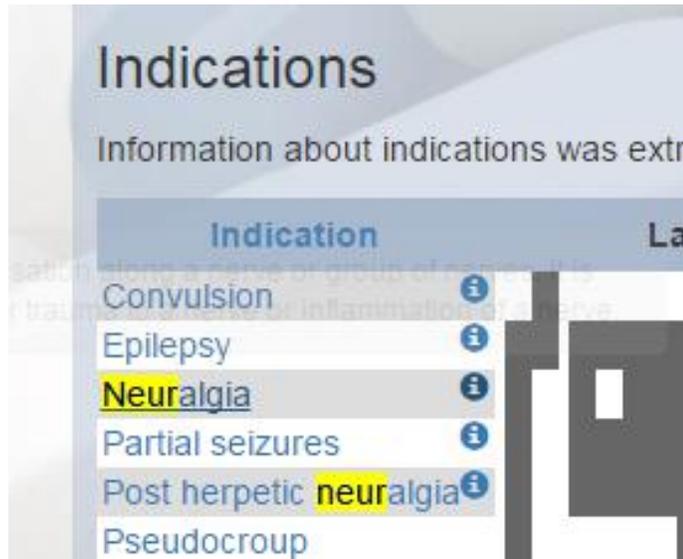
Information about indications was extracted from the indications and u

Indication	Labels ⓘ
Atherosclerosis	■
Cardiovascular disorder	■
Coronary heart disease	■
Diabetes mellitus	■
Diabetic ketoacidosis	■
Dyslipidaemia	■
Heterozygous familial hypercholesterolemia	■
High density lipoprotein decreased	■
Hypercholesterolaemia	■
Hyperlipidaemia	■
Hypertension	■
Hypertriglyceridaemia	■
Intestinal obstruction	■
Low density lipoprotein increased	■
Type 1 diabetes mellitus	■
Type 2 diabetes mellitus	■
Type II hyperlipidaemia	■

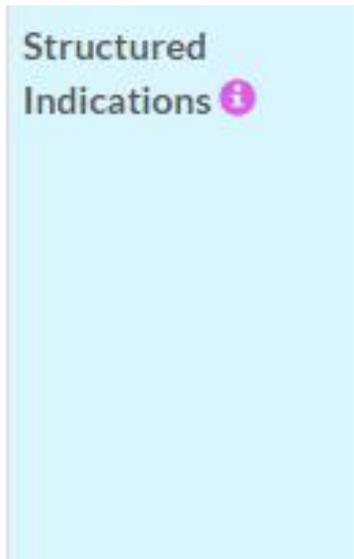
Figure 9 indications of colesevelam

6.gabapentin(加巴喷) OMIM:255700

epilepsy(癲癇) → anxiety disorder,neuropathic pain



Indication	La
Convulsion	
Epilepsy	
Neuralgia	
Partial seizures	
Post herpetic neuralgia	
Pseudocroup	



- Diabetic Neuropathies
- Fibromyalgia Syndrome
- Hot Flashes
- Partial Onset Seizures
- Post-Herpetic Neuralgia (PHN)
- Post-Operative Pain
- Refractory Chronic Cough
- Restless Legs Syndrome (RLS)
- Social **Anxiety** Disorder (SAD)
- Brachioradial pruritis

Figure 10 indications of gabapentin

<http://sideeffects.embl.de/drugs/3446/>

<https://www.drugbank.ca/drugs/DB00996>

7.pregabalin(普瑞巴林) OMIM:133020

epilepsy(癲癇) —————> anxiety disorder,neuropathic pain



Indications

Information about indications was e

Indication
Convulsion 
Diabetic peripheral neuropathy 
Epilepsy 
Fibromyalgia 
Generalised anxiety disorder 
Neuralgia 
Partial seizures 
Post herpetic neuralgia 
Renal impairment 
Spinal cord injury 

Structured Indications

- Diabetic Peripheral Neuropathic Pain
- Fibromyalgia
- Pain, Neuropathic
- Partial Onset Seizures
- Postherpetic Neuralgia

Figure 11 indications of pregabalin

<http://sideeffects.embl.de/drugs/125889/>

<https://www.drugbank.ca/drugs/DB00230>

8. plerixafor(AMD3100普乐沙福)

OMIM:114480

HIV → stem cell mobilizing

Description: Plerixafor is a **hematopoietic stem cell mobilizer**. It is used to stimulate the release of stem cells from the bone marrow into the blood in patients with non-Hodgkin lymphoma(非霍奇金淋巴瘤) and multiple myeloma(多发性骨髓瘤) for the purpose of stimulating the immune system. These stem cells are then collected and used in autologous stem cell transplantation to replace blood-forming cells that were destroyed by chemotherapy.

[https://www.drugbank.c
a/drugs/DB06809](https://www.drugbank.ca/drugs/DB06809)

Indications

Information about indications was extracted from

Indication	Labels 
Leukaemia 	
Lymphoma 	
Myocardial infarction 	
Non-Hodgkin's lymphoma 	
Plasma cell myeloma 	

<http://sideeffects.embl.de/drugs/65014/>

Figure 12 indications of plerixafor