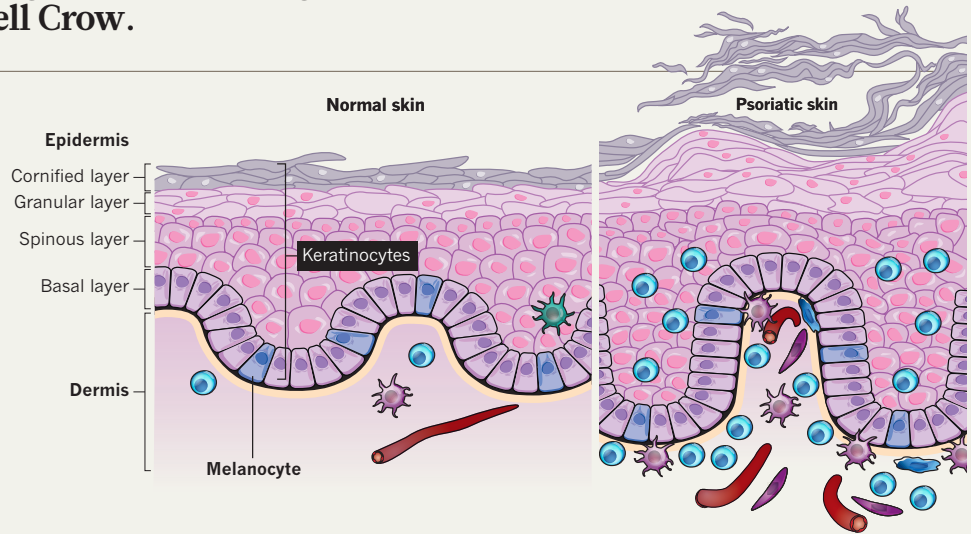


PSORIASIS UNCOVERED

Science is finally getting to grips with this enigmatic autoimmune disease. By James Mitchell Crow.

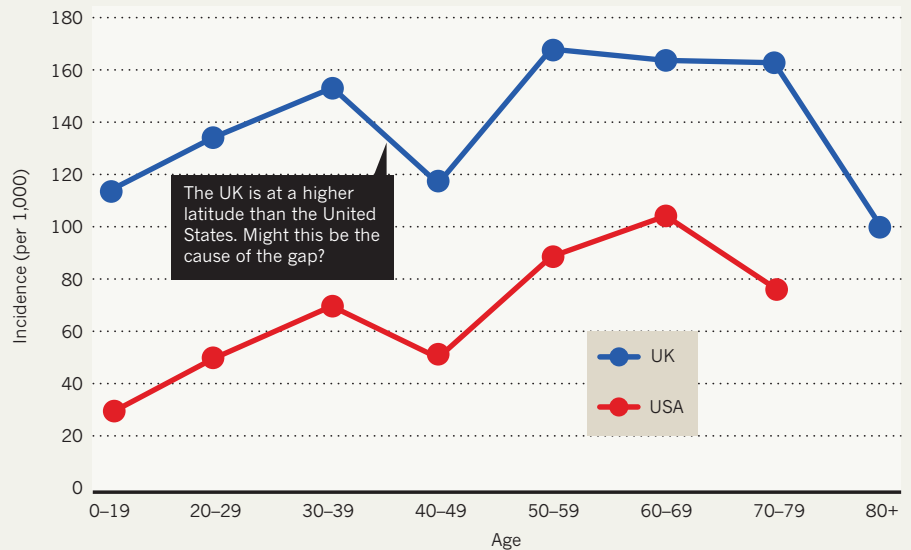
SKIN DEEP

Psoriasis is a non-contagious chronic skin disease affecting the keratinocytes, the cells that predominantly form the epidermis. During outbreaks of the disease, the keratinocytes proliferate at ten times the rate of non-diseased skin cells and fail to mature properly, resulting in raised, inflamed, scaly red skin lesions known as plaques, which can be itchy and painful.



AGE OF ONSET

Although plaque psoriasis is considered a single disease, its severity, progression and response to treatment can vary markedly between patients — suggesting the existence of multiple underlying subtypes. For example, incidence data by age show two spikes, suggesting early- and late-onset forms of the disease.



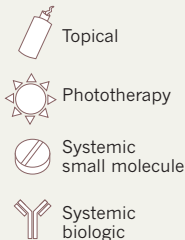
SOURCE: PARISI, R. ET AL. J. INVEST. DERMATOL. DOI:10.1038/JID.2012.339 (2012)

75%

of patients present with psoriasis before the age of 40

TREATMENT

A broad spectrum of therapies are available to treat psoriasis, depending on the severity of the disease. Newer biologic drugs are assessed by a 'PASI 75' score, representing the percentage of patients achieving at least a 75% reduction in their Psoriasis Area and Severity Index (PASI). Despite considerable progress (see 'Silencing psoriasis', page S58), a cure remains elusive.



>100 YEARS AGO COAL TAR

Tars have been used for nearly 2,000 years to treat skin diseases. They are often messy and smelly, but effective.

1925 GOECKERMAN THERAPY

A combination of coal tar and ultraviolet (UV) irradiation. A course of treatment takes several weeks, and is now less commonly used.

1950s METHOTREXATE

Safe and highly effective for chronic plaque psoriasis. In common use for many years before official FDA approval in 1972.

1951 CORTICOSTEROIDS

Very effective as a short-term treatment. Unsuitable for long-term use because of the growing risk of side effects.

>100 YEARS AGO 1920 1930 1940 1950 1960

SOURCE: PARISI, R. ET AL., J. INVEST. DERMATOL., DOI:10.1038/JID.2012.339 (2012)

PSORIASIS IS COMMON

Global epidemiological data are sparse. There is a lack of uniformity of data collection, so worldwide incidence and prevalence are poorly documented.

Some trends do emerge — for example, prevalence is higher closer to the poles. A combination of genetic and environmental factors are thought to be behind this pattern.

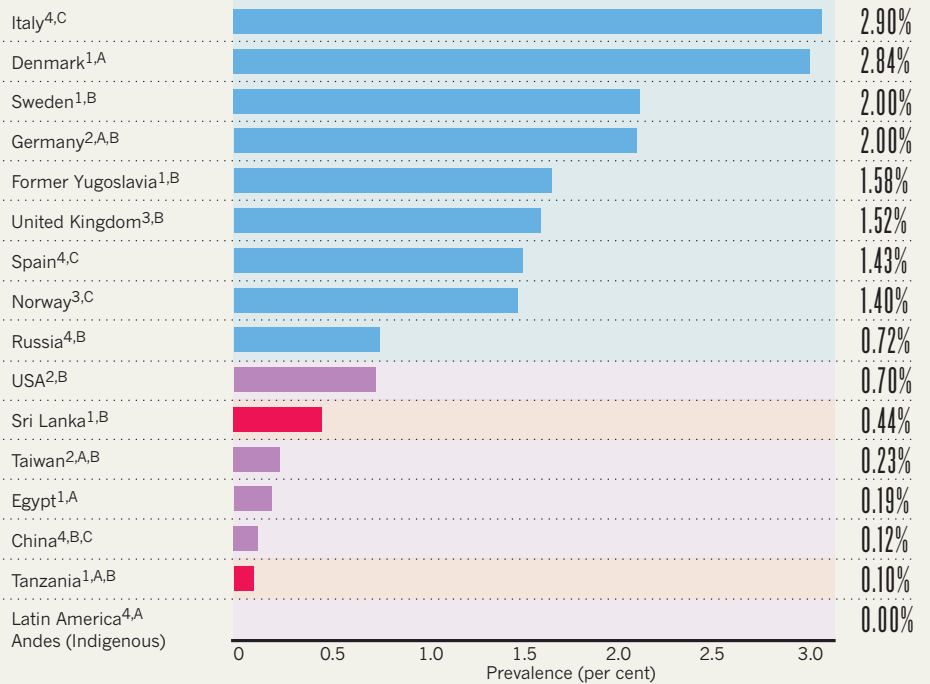
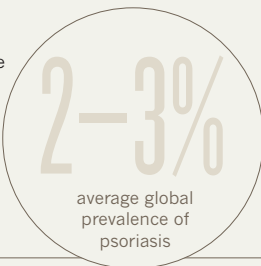
- Temperate (latitude above 40°)
- Subtropical (23–40°)
- Tropical (<23°)

Study type

- 1 Point prevalence
- 2 Period prevalence
- 3 Lifetime prevalence
- 4 Not specified

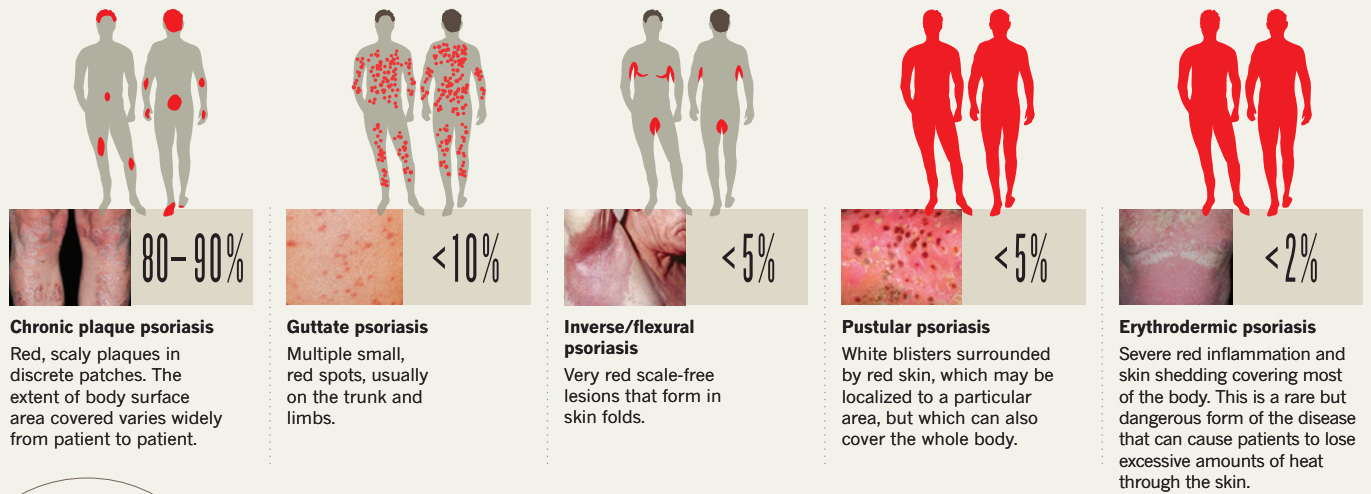
Diagnostic method

- A Dermatologist
- B Physician
- C Self-reported



PSORIASIS IS HIGHLY HETEROGENEOUS

Psoriasis comes in several distinct forms. Patients usually display a single form at any one time, although forms can coexist, and one form can be followed by another. Around 80% of psoriasis cases are classified as mild.



Chronic plaque psoriasis

Red, scaly plaques in discrete patches. The extent of body surface area covered varies widely from patient to patient.

Guttate psoriasis

Multiple small, red spots, usually on the trunk and limbs.

Inverse/flexural psoriasis

Very red scale-free lesions that form in skin folds.

Pustular psoriasis

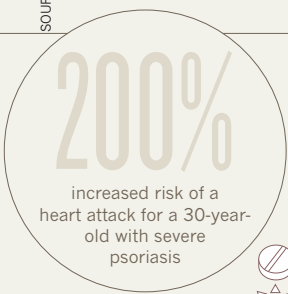
White blisters surrounded by red skin, which may be localized to a particular area, but which can also cover the whole body.

Erythrodermic psoriasis

Severe red inflammation and skin shedding covering most of the body. This is a rare but dangerous form of the disease that can cause patients to lose excessive amounts of heat through the skin.

SOURCE: THE PSORIASIS AND PSORIATIC ARTHRITIS POCKET GUIDE, NATIONAL PSORIASIS FOUNDATION

DR P. MARAZZI/SCIENCE PHOTO LIBRARY / CNRI/SCIENCE PHOTO LIBRARY / NATIONAL PSORIASIS FOUNDATION / DR P. MARAZZI/SCIENCE PHOTO LIBRARY / SCIENCE PHOTO LIBRARY



1970s
UVB LIGHT
Can clear mild cases of the disease.

PSORALEN AND UVA LIGHT (PUVA)
Possibly slightly more effective, although less convenient, than UVB therapy. A second-line treatment.

1993
VITAMIN D3 ANALOGUES
Well tolerated and effective for long-term use with minimal side effects.

1996
ACITRETIN
Effective for generalized pustular and erythrodermic psoriasis, particularly in combination with UVB or PUVA therapy.

2006
REMICADE (INFLIXIMAB)
PASI 75 at 26 weeks: 50%

2004
ENBREL (ETANERCEPT)
PASI 75 at 24 weeks: 59%

2003
AMEVIVE (ALEFACEPT)
PASI 75 at 14 weeks: 21%

2008
HUMIRA (ADALIMUMAB)
PASI 75 at 16 weeks: 71%

2009
STELARA (USTEKINUMAB)
PASI 75 at 28 weeks: 71–78%

1970 1980 1990 2000 2010