

For the Primer, visit [doi:10.1038/nrdp.2015.11](https://doi.org/10.1038/nrdp.2015.11)

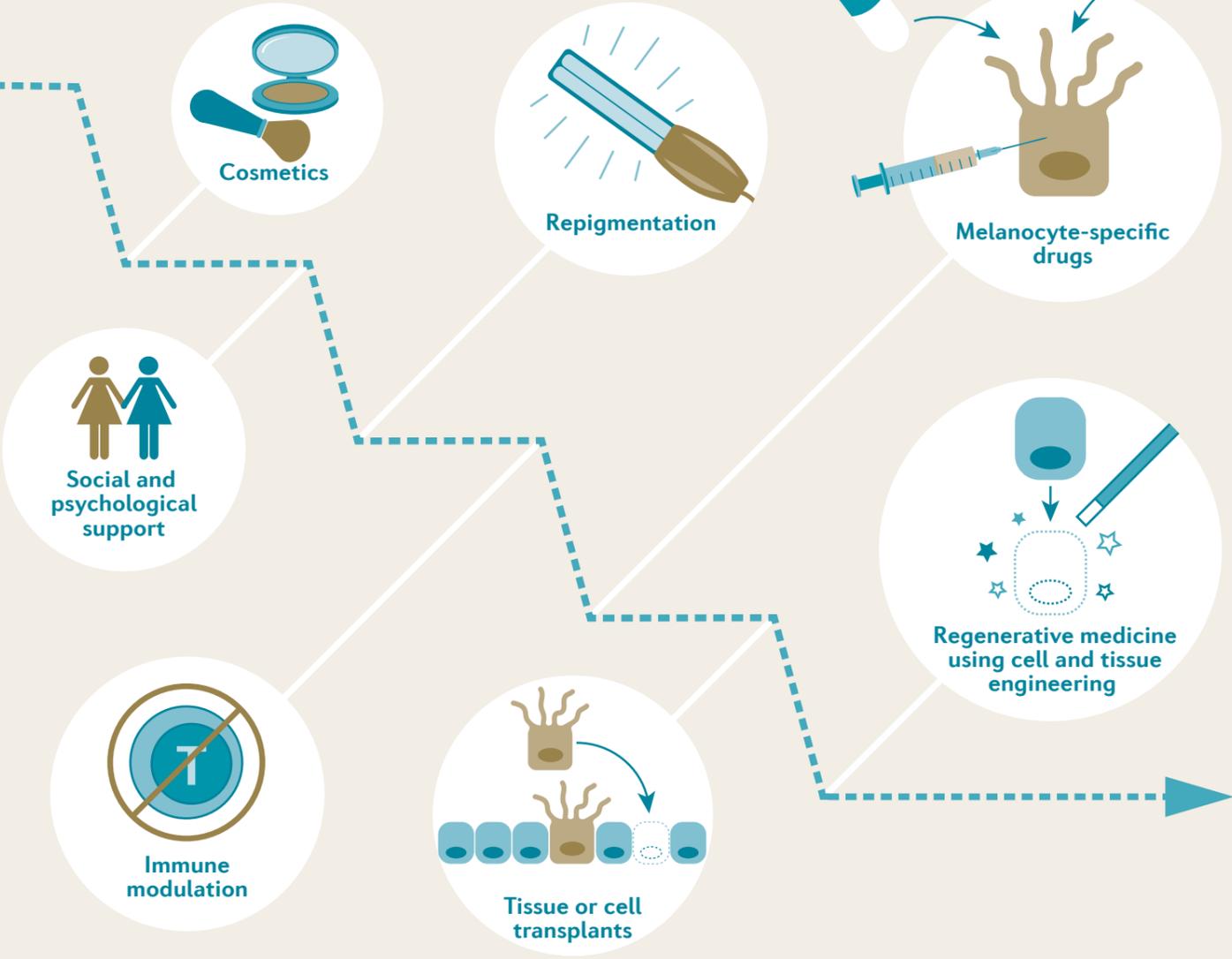
➔ Vitiligo is the most common depigmenting skin disorder. It is caused by dysfunction or destruction of melanocytes, which are the main pigment-producing cells. The cause of vitiligo is unknown, but oxidative stress and autoimmune processes are involved.

**EPIDEMIOLOGY**

Vitiligo affects ~1% of the population and often develops during childhood or early adulthood. An increased risk of vitiligo in family members of patients suggests that the disease has a genetic component.

Vitiligo is as common in women as in men, but women seek treatment twice as often, probably owing to greater social stigma.

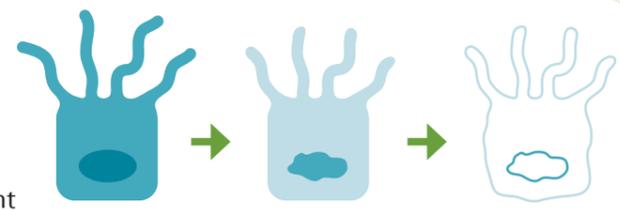
**Rx MANAGEMENT**



**PATHOPHYSIOLOGY**

Pathological changes can be observed both in normally pigmented and in depigmented skin. The whole epithelium shows oxidative stress, which leads to metabolic changes, in particular in the mitochondria. Consequently,

melanocytes degenerate and acquire a presenescent phenotype, which leads to the activation of innate and, eventually, adaptive immunity. Patients harbour cytotoxic



T cells that recognize and kill melanocytes. However, the exact mechanisms of melanocyte loss remain to be determined.

**QUALITY OF LIFE**

The effect of vitiligo on quality of life depends on the amount and the location of skin that is affected. White patches on the face and hands are particularly distressing. Furthermore, in individuals with dark skin, vitiligo can be very prominent; in some fair-skinned individuals vitiligo might go unnoticed and, therefore, undiagnosed.

Skin integrity is important for most cultures, but differences in local customs affect patients' and society's evaluation of the disease.

**OUTLOOK**

The available therapeutic options are unsatisfactory for many patients — they can be complex, time-consuming and ineffective. A better understanding of the underlying mechanisms should enable the development of more-specific and hopefully more-effective treatments. Targeting melanocyte precursors and other skin stem cells is a

promising strategy. Furthermore, vitiligo provides an excellent model of cell and tissue degeneration, and of organ-specific autoimmunity. Immune modulation is a relevant therapeutic approach at present and further improvements are expected.

**Finding new treatments that help regenerate melanocyte cell numbers and functions might also benefit the treatment of other diseases.**

**DIAGNOSIS**

Vitiligo is diagnosed clinically and usually does not require further laboratory or histopathological analyses, except for the exclusion of other diseases. Non-segmental vitiligo is the most common form; it typically affects acrofacial areas in a symmetrical pattern. By contrast, segmental vitiligo is confined to one segment of the skin and shows early hair whitening and rapid progression.

