**Psoriasis and Biologic Treatments**

Choose the best treatment to regain your quality of life.

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**DERMATOLOGY LIFE QUALITY INDEX**

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Psoriasis is a common disease, that affects up to 4% of the population. It usually begins in one’s twenties but can start at any age. Psoriasis is caused by a disorder of the immune system: it constantly stimulates the growth of the skin, as if it wants to be fixed, but it is not damaged. The result is the formation of red and thick plaques, with abundant dead scaly skin. Dysregulation of the immune system affects the skin but can also affect the tendons and joints. One in three people with psoriasis have associated arthritis. In people with psoriasis, the risk of diabetes, obesity, high cholesterol, hypertension, depression is higher.

There are different types of psoriasis. This document addresses the most common form, plaque psoriasis.

Plaque psoriasis evolves slowly. It often starts on the scalp, elbows or knees. It can remain stable or spread. It often causes itch and discomfort. The appearance of these lesions affects quality of life: the visible plaques may elicit inappropriate and/or hurtful questions. Is it contagious? Is it from being dirty or unhygienic? These questions demonstrate the general lack of understanding of this disease. You know that the disease is not contagious and that it has no link with hygiene but incessant questions and strange looks may become embarrassing. This may lead to a loss of self-esteem, withdrawal from social activities, restriction of clothing and entertainment options, and more.
What treatments are available?

Different psoriasis treatments are available; the choice of treatment depends largely on the severity of the disease.

Creams, gels, lotions, solutions, foams, ointments:
- topical steroids (products with cortisone)
- tar (Targel, liquor carbonis detergens)
- vitamin A derivatives (Tazorac)
- vitamin D derivatives (Dovonex, Siliks)
- topical immunomodulators: Tacrolimus (Protopic), Pimecrolimus (Elidel)
- compounded formulas (Dovobet = steroid + vitamin D derivative) (Diprosalic= steroid + salicylic acid).

Phototherapy (treatment with light rays)
- Ultraviolet B rays (Broad & Narrow Band-UVB)
- PUVA (oral or topical Psoralen followed by controlled UVA rays)

Traditional Oral Treatments
- Acitretin (Soriatane)
- Methotrexate (also available by injection)
- Cyclosporine (Neoral)

Advanced Oral Treatments
- Apremilast (Otezla)

Biologic Treatments
- Etanercept (Enbrel): subcutaneous injections
- Adalimumab (Humira): subcutaneous injections
- Infliximab (Remicade): intravenous infusions
- Ustekinumab (Stelara): subcutaneous injections
- Secukinumab (Cosentyx): subcutaneous injections
- Ixekizumab (Taltz): subcutaneous injections
Phototherapy (treatment with light rays)

Phototherapy using a specific band of UVB rays (narrowband UVB, NB-UVB) is often an effective treatment for psoriasis. It usually requires three visits a week to a therapy centre (in the hospital or in some dermatology clinics). The number of treatments to achieve satisfactory results varies from one person to the next.

When psoriasis control is achieved, maintenance treatment is often required. The risks of this treatment are the same as those related to sun exposure, though to a lesser degree.

PUVA, which is the oral administration of a psoralen (photosensitizer) followed by exposure to UVA rays, is a very effective treatment. However, it is rarely used because of the risk of developing skin cancer, especially if the number of exposures exceeds 200.

The use of PUVA is almost exclusively reserved for topical application to small affected areas of the skin (hands and feet, for example). PUVA is not widely available.
Traditional Oral Treatments

Acitretin (Soriatane)

Acitretin is a derivative of vitamin A. It is administered as oral tablets (10 mg and 25 mg). It has average effectiveness in psoriasis, but some people get great results. Side effects are rare at low doses. When the dosage is increased, dry lips, dry inner nostrils, fatigue, among other side effects can occur. Moreover, cholesterol and triglycerides (fat in the blood) may increase and should be monitored by blood tests. Rarely, liver enzymes may also increase. Acitretin is contra-indicated in women of childbearing age without the use of highly effective contraceptive methods as it is teratogenic.

Methotrexate

Methotrexate is an anti-inflammatory drug used for decades to treat psoriasis and arthritis. It is effective in about 40% of cases of psoriasis. It is prescribed in tablets or injections taken once per week. The results are apparent after about 8 weeks of treatment. The dose used for the treatment of psoriasis range from 10 to 25 mg per week.

Side effects vary from person to person. The risk of side effects is higher in obese and/or diabetic people and especially among those who regularly consume of alcohol (beer, wine, liquor). Short-term side effects primarily include changes in blood counts, or gastrointestinal symptoms (nausea, upset stomach). Side effects from prolonged use include possible liver damage but this occurs almost only in people regularly consuming alcohol. A supplement of folic acid (vitamin B9) is highly recommended to reduce side effects. Blood tests at regular intervals are essential for adequate monitoring. This drug is also contra-indicated when pregnancy is being actively considered.

Cylosporine (Neoral)

Cylosporine is highly effective for the treatment of psoriasis. Over 70% of people will have a great response. It is dosed according to body weight: 2.5 mg to 5 mg per kg per day, divided into two doses every 12 hours. The response is rapid: psoriasis decreases in less than 8 weeks. The short term side effect is an increase in blood pressure: it must be closely monitored every week. An elevation of lipids (fats in the blood) is also monitored by regular blood tests.

Other rare events are transient headaches and muscle cramps. In the long term (over 2 years of continuous use), this drug can cause kidney failure. Regular bloodwork is essential to check kidney function. Cylosporine is prescribed for a maximum of 2 years, except in special situations. Side effects vary depending on the required dose and duration of treatment: the higher the dose and longer the period of use, the greater the risk to the kidneys.
**Advanced Oral Treatments**

**Apremilast (Otezla)**

Apremilast (Otezla) has been available since 2014. Otezla is an oral tablet. About a third of psoriasis patients have a satisfactory response to a dose of 30 mg twice daily. The dose should be reduced in people with kidney failure. The most common side effects are transient nausea and mild diarrhea in the first weeks. Transient headaches are possible. Weight loss can occur during long-term treatment. However, the majority of individuals have no side effects.

**Biologic Treatments**

The arrival of biologic therapies in the early 2000s was a revolution in the treatment of psoriasis and psoriatic arthritis. Biologics are targeted treatments, remarkably effective and with minimal risk when used properly.

There are 2 main classes of biological agents against psoriasis: TNF inhibitors and interleukin inhibitors. The TNF inhibitors are: etanercept, adalimumab and infliximab (also certolizumab and golimumab for psoriatic arthritis). The interleukin inhibitors are: ustekinumab (inhibitor of interleukin 12 and 23), secukinumab and ixekizumab (inhibitors of interleukin 17).

Biologics, however, cost considerably more than traditional treatments (phototherapy, methotrexate, cyclosporine, acitretin). They are covered by most drug plans, including provincial formularies, but only under certain conditions: the disease must be of significant severity, should have a significant impact on quality of life, and the patient must have failed to respond adequately or have contraindications to traditional treatments. The severity of disease is measured by the specialist and the impact of the disease is estimated by a questionnaire, the DLQI. The DLQI is attached to this document.
Before starting treatment with a biologic agent (and other traditional treatments) some precautions are in order.

1. Ensure the absence of a latent or active tuberculosis infection. The doctor will ask questions and may order a chest X-ray and a TB test. The TB test may be a blood sample performed in specialized labs only (Quantiferon) or a skin test (PPD, performed at your health care provider’s office).

2. Make sure your vaccinations are up to date, mainly for live attenuated vaccines. In adults, live vaccines include those against shingles (Zostavax), yellow fever (required if you plan travel in certain regions African or Latin America), and the inhaled influenza (flu) vaccine (FluMist). Vaccination with a live attenuated vaccine is contraindicated during treatment with biotherapy. The updated vaccination record is particularly important for children. Note that killed vaccines (ie. injected vaccine against influenza, tetanus, pneumococcus, hepatitis A and B, Haemophilus influenza) can be given at any time. However, it is preferable to receive all possible vaccinations before starting a biologic.

3. You should inform your doctor of any planned surgery to discuss the risks and benefits associated with a biologic and surgery.

4. Biologics directed against TNF should not be prescribed (or prescribed with great vigilance) if there is a personal or family history (father, mother, brother, sister) of symptoms or signs suggestive of multiple sclerosis. This warning is specific to anti-TNFs (Remicade, Enbrel, Humira, Cimzia, Simponi). It does not apply to other biologics (Stelara, Cosentyx, Taltz) nor to traditional treatments.

5. Severe heart failure is a contraindication to anti-TNFs (Remicade, Enbrel, Humira).

6. Other contraindications that must be discussed with your doctor include: history of lymphoma, melanoma, severe or chronic infections, active hepatitis B.
**Biologic agents:**

**INTRAVENOUS**

This type of drug is administered at an infusion centre.

In addition to monitoring your vital signs (*temperature, blood pressure, heart rate*), a health care provider will ask about your health and ensure that there are no contra-indications to treatment.

Only one drug is available for the intravenous treatment of psoriasis: Remicade

**Remicade 5 mg/kg – an anti-TNF**

**Frequency:**

Infusion at baseline and at weeks 2 and 6, then every 8 weeks. Your doctor may adjust the frequency if there is inadequate psoriasis control.

**Duration:**

The infusion lasts at least two hours (can be reduced to 1 hour in certain circumstances)

**SUBCUTANEOUS**

This type of treatment allows you to manage the medication. The frequency of administration varies depending on the product chosen. Depending on your preference, you can choose between an autoinjector pen (the needle is hidden and pushing on the injection button injects the medication automatically) or a prefilled syringe; both are very easy to use. Of course, a health care provider or pharmacist will give you the first injection and explain how to give yourself the drug. Everything is simple. If you are concerned, you can seek help from a family member or relative, or choose to get injected by a nurse, health care provider or pharmacist.
Medications given by subcutaneous injection (syringe or auto-injector)

**Enbrel 50 mg – an anti-TNF**

**Availability:**
auto-injector pen (Sure-Click) or pre-filled syringe

**Frequency:**
One injection of 50 mg twice a week for 12 weeks, then one or two injections a week depending on your results.

**Humira 40 mg – an anti-TNF**

**Availability:**
auto-injector (PEN) or pre-filled syringe

**Frequency:**
Two injections on Day 1, then one injection a week later, then one injection every two weeks.

**Stelara 45 mg or 90 mg – anti-interleukin 12/23**

**Availability:**
pre-filled syringe

**Frequency:**
One injection on Day 1, then at week 4, week, then every 8 to 12 weeks.

**Cosentyx 150 mg – anti-interleukin 17A**

**Availability:**
auto-injector or pre-filled syringe

**Frequency:**
Two injections of 150 mg at weeks 0, 1, 2, 3 and 4 then two injections every 4 weeks.

**Taltz 80 mg – anti-interleukin 17A**

**Availability:**
auto-injector or pre-filled syringe

**Frequency:**
Two injections of 80 mg on Day 1 then one injection at weeks 2, 4, 6, 8, 10, and 12 then every 4 weeks.
### Other information to know about Biologics

Biological treatments can affect your immune response. This is true for almost all systemic therapies. There may be an increased risk of infections, though the risk is low. However, when a significant infection occurs (fever, general malaise), stop treatment. Resume only after the infection has resolved. Note that the benefits of treatment far outweigh the risks and that infections are rare and treatable with common antibiotics.

It is important for you to submit an updated list of all the medication you are taking to your doctor, including supplements and, of course, treatments for your psoriasis.

The following are important events that may occur while on a biologic. Please take note of the suggested course of action:

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### Patients’ responsibilities when receiving oral medication or injections

**By opting for systemic treatment, you have responsibilities, including:**

- have an updated list of medications you take
- take your medication as prescribed
- undergo blood tests by the schedule discussed with your doctor
- store the drug as directed by the pharmacist and keep it out of the reach of children
- check the renewal date of your medicine
- make sure you have a follow up with your doctor

The prescriptions are not renewed automatically. In many clinics, making appointments must be made at least 6 months in advance. A prescription renewal is not classified as an emergency.
Introduction of biological agents is the most significant therapeutic development of recent years in the treatment of many diseases, including psoriasis.

Visit the following websites:
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www.dermatology.ca
Canadian Association of psoriasis patients
www.skinpatientalliance.ca
Canadian psoriasis Network
www.canadianpsoriasisnetwork.com
Venderm Innovations in Psoriasis (ViP)
www.venderm.ca

Note: This document is a summary. It does not include all possible side effects, included in the monograph of each treatment.
Document created by Dr. Yves Poulin, MD.FRCPC. Dermatologist.
First Edition: 2012 (with the collaboration of Dr. Angèle Turcotte, rheumatologist).
English version of second French edition (with several modifications): July 2016
The following dermatologists actively participated in the update of this document: Dr. Danielle Brassard, Dr. Hélène Veillette, Dr. Pierre-Luc Dion, Dr. Marilyn Caron.
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Treated with antibiotics
Surgical Intervention | Consult your doctor
Planning Pregnancy | Consult your doctor
Travel | Consult your doctor

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