



SKIN CARE WEST

MEDICAL + SURGICAL DERMATOLOGY

TREATING BASAL CELL CANCER WITH IMIQUIMOD

Skin cells sometimes develop genetic mutations, for instance from exposure to ultraviolet radiation in sunlight. Our immune system can recognize and destroy these cells. Imiquimod is a cream based 'immunomodulator' that augments this process.

IMAGINE A DIAL THAT RUNS FROM 1 TO 10 AND CONTROLS HOW AGGRESSIVELY YOUR IMMUNE SYSTEM ATTACKS ABNORMAL CELLS IN YOUR SKIN.

- Under normal conditions the dial is sitting at position 1. Damaged cells are continuously being cleared, but the process is slow and gentle, so you are not aware it is happening.
- If you turn the dial up, your immune system becomes more active. Somewhere around level 3 your skin starts getting swollen, warm and red. Turn the dial up a bit further, say to level 5, and you start to develop crusty areas and small wounds in places where large numbers of abnormal skin cells are dying and sloughing off.
- If you keep going and turn the dial all the way to 10, your skin's immune system becomes over stimulated. Things get very uncomfortable, with severe skin inflammation, and even whole-body symptoms like fevers and chills.

PUTTING IMIQUIMOD CREAM ON YOUR SKIN ESSENTIALLY 'TURNS THE DIAL UP'. YOU CAN CONTROL THE SETTING, BY ADJUSTING HOW OFTEN YOU APPLY IT AND HOW LONG YOU KEEP IT ON.

- Ideally, you want to get to something like 4 or 5 on the dial. At that level there are obvious changes in your skin, but things are still reasonably tolerable.
- If you're stuck at 1 or 2, and not much seems to be happening, you need to apply imiquimod more often.
- If you're heading above 5 and starting to get severe inflammation in your skin or even some flu-like symptoms, you need to stop and take a break. The dial will gradually drift back down over a few days or a week, and then you can start applying the cream again, but less often than before.

UNTIL YOU USE IT THERE IS NO WAY OF KNOWING HOW SENSITIVE YOUR SKIN WILL BE TO IMIQUIMOD.

- Response is highly variable since everyone's immune system is different.
- Some individuals are very sensitive to imiquimod. Within a few applications their skin is already becoming very inflamed and uncomfortable. They can get significant benefit from using it, but need to be very careful not to let things get out of control.
- Some individuals are the opposite. Even after applying imiquimod multiple times a day for weeks, they still do not develop much of a response. They generally do better using other treatments.
- Most of us are somewhere in between. Applying imiquimod once a day about 5 times a week gets us to 'level 5 on the dial'. About 6 weeks of that has an 80% cure rate for low-risk basal cell cancer. The cure rate can be pushed even higher, to around 85-90%, by going a bit longer.

OBTAINING IMIQUIMOD

- 5% imiquimod is available in brand name form (Aldara) which comes in a small pump and costs around \$500. One pump is enough to treat most tumours. There is a generic version of the pump that is slightly less expensive but it is not always available.

- Imiquimod also comes as a generic powder that can be mixed into a cream base by a compounding pharmacist. The cost is half or less than brand name Aldara. Results seem to be comparable.
- We recommend getting the brand name product or generic equivalent if you have coverage, and a compounded version if you are paying out of pocket.

FIXED DOSE PROTOCOL

- Apply imiquimod 5 times per week for six weeks. Most patients use it Monday to Friday and take a break over the weekend.
- About 30 minutes before bedtime, with a clean finger, put imiquimod on the treatment site and a small area of normal skin around it (5-10 mm). Use enough cream so that you can see it at first and then it disappears as you rub it in. Wash your hands afterwards. Do not cover.
- Peak effect often occurs around weeks 3-4. Expect redness, swelling and crusting at the treatment site. Use Vaseline, Aquaphor or an equivalent wound care ointment during the day to keep things comfortable.

VARIABLE DOSE PROTOCOL

- Start at one application 3x per week for first two weeks (best time is about 30 minutes before you go to bed).
- If no response or only very mild inflammation increase to 5x per week for next two weeks.
- If still no response or only very mild inflammation, increase to 7x per week for next two weeks.
- If still no response or only very mild inflammation, increase to twice a day 7x per week.
- Once a mild to moderate inflammation has started, do not increase application frequency further. Stay at that dose.
- If inflammation becomes excessive at any time, stop treatment for a few days until it settles, then restart at slightly reduced application frequency.
- Total treatment duration varies. Minimum is 6 weeks. Some tumours may take up to 12 weeks to clear.

CHOOSING FIXED VS VARIABLE

- The fixed dose protocol is how imiquimod was studied and approved by Health Canada for the treatment of basal cell cancer. It works well for those who have an 'average' response to the medication.
- In real-world use, the variable dose protocol tends to be safer, and potentially more effective:
 - Starting slowly prevents things from getting out of hand for those who are very sensitive to imiquimod.
 - For those with low sensitivity to imiquimod, gradually adjusting application frequency upward, increases the likelihood of getting a sufficient inflammatory response to clear their tumour.

ADDITIONAL TIPS

- If at any point the inflammation in your skin becomes intolerable. Stop treatment and take a break.
- If you develop flulike symptoms, it may be a side effect of the imiquimod. It is safe to continue if the symptoms are mild. Stop if they are severe. Medications such as acetaminophen (Tylenol) can be helpful.
- It is not uncommon to develop patchy skin redness and crusting away from the treatment site. That is just a sign that your skin's immune system is responding to the medication and clearing sun damage in those areas.
- Between imiquimod applications, make sure to put Vaseline, Aquaphor or an equivalent wound care ointment on areas that are becoming red and crusty. It will make the treatment much more tolerable.
- To speed up healing after you have finished treatment, continue with the wound care ointment twice a day for about a week.
- The appearance of your skin during treatment with imiquimod can be a bit scary. Remember, that you are dialing up how aggressively your immune system is attacking abnormal skin cells. Normal skin cells are not damaged by the process, so recovery is rapid and cosmetic outcomes are generally excellent.