



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

National Liaison Pharmacist, Addiction Services

Advice on the use on injecting tanning agents, e.g. Melanotan

What is Melanotan?

- Melanotan is based on a drug (afamelanotide) which was developed by the University of Arizona in 1981 to be used for photo protection against sun damage. This drug is currently undergoing clinical trials for use in patients with specific sun-sensitive skin conditions and is not available for general sale.
- The drug is chemically related to the alpha-melanocyte stimulating hormone (α -MSH) and binds to receptors (melanocortin receptors) in human skin cells. This binding to the α -MSH receptor, which has a key role in determining skin and hair pigmentation, increases production of melanin in the skin, resulting in a 'sun tan'.
- Melanotan is a synthetic analog of α -MSH and is **illegal, untested and unregulated** which is currently being sold online for self-administration. α -MSH is very fragile and requires a rigorous manufacturing environment which cannot be guaranteed in unlicensed manufacturing laboratories. The product must also be stored in a refrigerator.

What is the difference between Melanotan I and Melanotan II?

- Melanotan I specifically binds to receptors responsible for tanning and so has less side effects. However much more of it is required for effect and therefore it is more expensive than Melanotan II.
- Melanotan II binds to receptors other than those responsible for tanning and therefore results in more side-effects.

What are the side-effects?

- As this is an unregulated and untested drug the full range of potential side-effects are unknown. Increased libido, spontaneous erections, nausea (with subsequent weight loss), facial flushing on administration, flu-like symptoms, and increased blood pressure have been reported.

How is Melanotan administered?

- Melanotan is administered sub-cutaneously by injecting into the fatty layer of tissue around the belly button area. Clients inject daily until a desired colour is achieved and then continue to inject once or twice a week to maintain the colour.
- Some darkening of the skin may occur using the injection alone but the effects are far more dramatic when used along with exposure to UV light (sun or tanning bed) 2-3 times a week initially and then 1-2 times a week thereafter.

How is Melanotan available?

Products on the market include:

- A multi- dose vial of 10, 20 or 30 doses for subcutaneous injection.
- A set of pre-filled syringes for subcutaneous injection
- A nasal spray

Main concerns:

Product purity and content:

- This is an unlicensed, unregulated product. This is a fragile drug which requires refrigeration.
- Users may be reluctant to place the product in their family fridge. If pre-filled syringes are placed in the fridge this has implications in terms of access of children to syringes.

Unknown side-effects:

- There are no clinical trials available on the short and long term effects of using these products or if the doses recommended by manufacturers are safe.
- There is no trial data available on how these products may interact with other drugs or their effect on an unborn child.

Injecting equipment:

- Needles used to inject could also carry bodily fluids, which can pass on infections such as HIV and hepatitis. In some cases, there is an undersupply of needles by the online suppliers for the amount of administration required, e.g. 1 needle supplied with a 10 dose vial.
- This could lead to sharing and reusing of needles. There are reports of clients using the same needle for a month and attempting to sterilise after every use.
- A multi-dose vial manufactured in a non-rigorous manufacturing environment may not remain sterile for the duration of its use e.g. a 30mg vial is designed to be used for 30 doses which may span a time period of 10 weeks.
- Some sites offer pre-filled syringes in which the product is already re-constituted with bacteriostatic water, however there is no guarantee that these pre-filled products will remain stable and sterile during delivery or for the life span of their use.

Disposal of used sharps:

- There have been reports of needles being disposed of in household rubbish.

Increased exposure to UV rays:

- As the effects of the tanning agents are more dramatic when used in conjunction with exposure to UV light (by natural sunlight or by tanning beds) use of the agents may increase UV exposure with all the addition risks associated such as increased risk of skin cancer, skin ageing, etc.

Harm reduction actions:

- Explain to users about the risks associated with injectable tanning products
- Highlight the risks associated with increased UV exposure (the ill effects of tanning still occur even in clients who have a deep tan). Clients can contact the Irish Cancer Society if they have concerns regarding skin cancer on the cancer helpline 1800 200 700 or www.cancer.ie
- Encourage users to stop using, and to seek medical advice if needed.

If using:

Clean injecting equipment:

- Advise that they use a clean needle every time and dispose of needles in a sharps container. The needles available in the injecting pack available in pharmacies participating in the Pharmacy Needle Exchange Program are designed like a diabetic needle and are suitable for subcutaneous injection.
- Advise clients on the risk of blood borne diseases and offer advice on whom to contact if the client is concerned that they may have exposed themselves to a blood borne disease by sharing needles. (see http://www.yoursexualhealth.ie/inner_page/sti_gum_clinic/ for list of STI/GUM clinics)
- A list of pharmacies participating in your area is available through the Drugs helpline 1800 459 459
- Participating pharmacies display the following logo:

Safe disposal:

- The pack also contains a small sharps container for used sharps. Pharmacies will accept used sharps if returned in the sharps container.

Impurity and instability of product:

- The amount of product in the vial may vary considerably, may be contaminated with bacteria or other chemicals.
- Check the vial before use and do not use if discolored or if particles visible.
- It must be stored in the fridge.
- All drugs should be kept out of the reach of children which may be difficult in a fridge.

Side-effects:

- Advise that side-effects are unknown, and the doses being used may not be safe.
- Effects of the drug on an unborn child are unknown.
- Effects when taken with other drugs are unknown.

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