**Q:14 What is done if there is a potential over-exposure to ultraviolet phototherapy?**

**A:** Below is the response from a large phototherapy centre and may not be the approach taken by other phototherapy centres.

Delivering more phototherapy than intended is uncommon and the consequences of such an action will depend on the type of phototherapy. Local procedures for dealing with and reporting incidents should be followed. Examples of instances which may result in a phototherapy overdose:

* Patient in treatment cabinet longer than intended
* Patient receiving the wrong type of phototherapy (example UVB instead of PUVA)
* Previously covered section of skin being exposed to phototherapy later in treatment course.

UVB overexposure: As this phototherapy has the highest energy per photon it has the highest potential to cause “burning”.

UVA1 overexposure: The longer UVA1 wavelengths penetrate deeper but have less energy per photon so longer wavelength UVA1 is less "burning" than UVB.

UVA for PUVA (psoralen treatment "activated" by broadband UVA) overdose: unless a large overdose this will rarely cause a problem. One example would be if a much higher dose of UVA to activate psoralen, as if for oral PUVA, is used in someone receiving bath PUVA

Some practical steps:

1. First, find out what dose has in fact been given ((Dose (in mJ/cm2) = Irradiance (in mW/cm2) x time in cubicle (in seconds)). So, you just need actual time in the cubicle (estimated if not certain, but if need be erring in using higher rather than lower estimate) and irradiance to calculate what dose was actually given, rather than the dose intended.
2. If PUVA: Check psoralen dose and route were as intended.
3. Often this will be reassuring in that if the actual dose given is less than or equal to baseline MED/MPD or maximum dose reached (whichever the higher) then it is unlikely to cause a reaction: usually it needs at least a 3-fold current MED/MPD dose to cause an uncomfortable reaction.
4. As a precaution, if > 2x baseline MED/MPD dose or > 2x maximum dose reached (whichever the higher) advise 5 days 2x daily clobetasol propionate 0.05% ointment (or similar if the patient left the department and has topical corticosteroids at home) to vasoconstrict.
5. If > 3x baseline MED/MPD or 3x last dose safely reached (whichever the higher) consider also 5 days oral prednisolone 40 mg daily.
6. Follow local procedures for Duty of Candour, this is likely to involve contacting the patient to apologise and explain what has happened (and usually, fortunately, to explain that a problem is unlikely).
7. Provide details for the patient to telephone if any concerns the "out of hours" on-call dermatology.
8. In-person review and follow-up in the phototherapy area should be arranged.