Supplementary tables for phototherapy treatment pathway

Table I. *NB-UVB dosing*

1. Recommended for generalized plaque psoriasis and guttate psoriasis
2. Determine initial dose based on Fitzpatrick skin type (See **Table VII**) and increase as tolerated up to the maximum dose (See **Table VIII**)
3. Administer NB-UVB 3 times per week
4. Adjust dose for the subsequent treatment depending on degree and duration of erythema
    - Minimal erythema lasting <24 hrs.: Increase by 20%
    - Erythema lasting 24-48 hrs.: Maintain dose until erythema lasting <24 hrs.
    - Erythema lasting >48 hrs.: No treatment that day and return to the previous dose that did not cause erythema

Table II. *Maintenance therapy protocol*

Is the patient satisfied with the treatment outcome?

- Ask patients if interested in maintenance therapy as a taper or indefinitely
    - Tapering schedule: treatment twice weekly for 4 weeks, followed by once weekly for 4 weeks. The dose should be the last dose given prior to clearing
    - Indefinite maintenance therapy: treatment every 1-2 weeks. The dose should be decreased by 25% and held constant for all maintenance treatments.

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Table III. *PUVA (oral or bath) dosing*

Oral PUVA:

- Oral psoralen plus UVA phototherapy
  - 8-MOP is the only psoralen available in the US

Recommended dosages for 8-MOP oral PUVA

Patient weight		8-MOP dose, mg
lb	**kg**	
<66	<30	10
66-143	30-65	20
144-200	66-91	30
>200	>91	40

Recommended UVA dosage for oral PUVA

Fitzpatrick skin type[1]	Initial dose, J/cm^2	Increments, J/cm^2	Max Dose, J/cm^2
I	0.5	0.5	8
II	1.0	0.5	8
III	1.5	1.0	12
IV	2.0	1.0	12
V	2.5	1.5	20
VI	3.0	1.5	20

Bath PUVA

- Soak affected area in psoralen bathwater before treatment with UVA light
  - 0.50-1mg/L of 8-MOP in water

[1] See **Table VII** for details to determine patient Fitzpatrick skin type

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Table IV. *BB-UVB dosing, adjustment based on MED, and missed treatment*

1. The initial dose can be selected based on the patient's skin type and MED
   a. If the patient misses their treatment, the dose may need to be adjusted
2. BB-UVB can be administered 3-5 times per week
   a. Less effective than oral PUVA and NB-UVB for plaque psoriasis
   b. Less effective than topical PUVA for palmoplantar psoriasis
3. Acitretin can be initiated at 10-25 mg per day and given as a maintenance dose of 25-50 mg per day
   a. Acitretin may cause photosensitivity. The prescriber should decrease the initial phototherapy by 35-50 % and with incremental increases based on the patient's response

Dosing guidelines for broadband ultraviolet B (BB-UVB)		
Fitzpatrick skin type[1]	**Initial UVB Dose (mJ/cm^2)**	**UVB increase after each treatment (mJ/cm^2)**
I	20	5
II	25	10
III	30	15
IV	40	20
V	50	25
VI	60	30
Dose adjustment according to MED[2]		
Treatment	**MED dosage**	
Initial UVB	50% of MED	
Treatment 1-10	Increase by 25% of initial MED	
Treatment 11-20	Increase by 10% of initial MED	
Treatment ≥ 21	As ordered by a physician	
Dose adjustment if the patient missed treatment		
Number of days or weeks missed	**Dose adjustment**	
4-7 days	Keep dose the same	
1-2 weeks	Decrease dose by 50%	
2-3 weeks	Decrease dose by 75%	
3-4 weeks	Start over	

[2] See **Table IX** for details to determine MED in patients.

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Table V. *Targeted UVB dosing*

1. All targeted UVB phototherapy is recommended for use in adults with localized plaque psoriasis (<10% BSA) for individual lesions or in patients with more extensive disease
   a. Relative efficacies:
      Excimer laser (308 nm) > excimer light (308 nm) > targeted NB-UVB light (311-313 nm)
2. For scalp psoriasis, excimer laser is recommended
3. Determine a starting dose based on fixed-dose protocol, Fitzpatrick skin phototype, or MED

Targeted UVB dosing

Plaque Thickness	Induration score	Fitzpatrick I-III (mJ/cm^2)	Fitzpatrick IV-VI (mJ/cm^2)
None	0	0	0
Mild	1	300	400
Moderate	2	500	600
Severe	3	700	900

- Administer target UVB therapy 2-3 times per week
- Adjust dose for subsequent treatments depending on erythema and treatment response at 12-24 hours

Targeted UVB dose adjustment based on erythema and treatment response

Erythema and treatment response	Dose adjustment
No erythema and no plaque improvement	Increase by 25%
Slight erythema with no significant improvement	Increase by 15%
Mild-to-moderate erythema response	Maintain dose
Significant improvement with plaque thinning, reduced scaliness, or pigmentation	Maintain dose or reduce by 15%
Moderate or severe erythema ± blistering	Reduce by 50%; avoid the blistered area

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Table VI. *Topical PUVA and pulse dye laser dosing*

Topical PUVA
• Recommended for palmoplantar psoriasis • Superior to localized NB-UVB light (311-313 nm) in the treatment of localized plaque psoriasis, particularly for palmoplantar psoriasis • 0.1% 8-MOP solution compounded with an emollient and applied 20 minutes before UVA exposure • 1 ml of 1% 8-MOP solution mixed in 2L of water and soaked into hands and feet for 30 minutes before UVA exposure
Pulse dye laser (PDL)
• Can be considered for nail psoriasis

Table VII. *Fitzpatrick skin type based on skin color and characteristics*

Type	Skin Color	Characteristics
I	White; very fair, red, or blonde hair, blue eyes, freckles	Always burns, never tans
II	White; fair, red, or blonde hair, blue, hazel, or green eyes	Usually burns, tans with difficulty
III	Cream-white; fair any eye or hair color	Sometimes mild burn, gradually tans
IV	Brown; typical Mediterranean white skin	Rarely burns, tans with ease
V	Dark brown; Middle Eastern skin types	Very rarely burns, tans very easily
VI	Black	Never burns, tans very easily

Table VIII. *Fitzpatrick skin type-based dosing*

Fitzpatrick skin type	Initial dose mJ/cm^2	Maximum dose (mJ/cm^2)
I and II	300	2000
III and IV	500	3000
V and VI	800	5000
MED test[3] can be performed in skin types I-IV to adjust initial dosages		

[3] For determination of MED test see **Table IX**

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Table IX. *Minimal erythema dose (MED) test*

- MED should be tested in uniform 2x2 cm sized areas (marked with a skin pen) in a sun-protected region on the hip or buttock. All other areas of the skin should be covered.
- Recommended dosing schedule for skin type I-IV (MED should not be performed in patients with skin type V and VI

Skin type	MED test dosage schedule (mJ/cm^2)							
I and II	250	400	550	700	850	1000	1150	1300
III and IV	350	500	650	800	950	1100	1250	1400

- Start the delivery with all testing areas open and cover after the specific dose of light has been delivered
- Instruct the patients to keep this area covered for the next 24 hours, avoiding exposure to natural or artificial UV light
- The patient should return 24 hours later. The MED is the lowest dose with any identifiable erythema within the tested area

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