

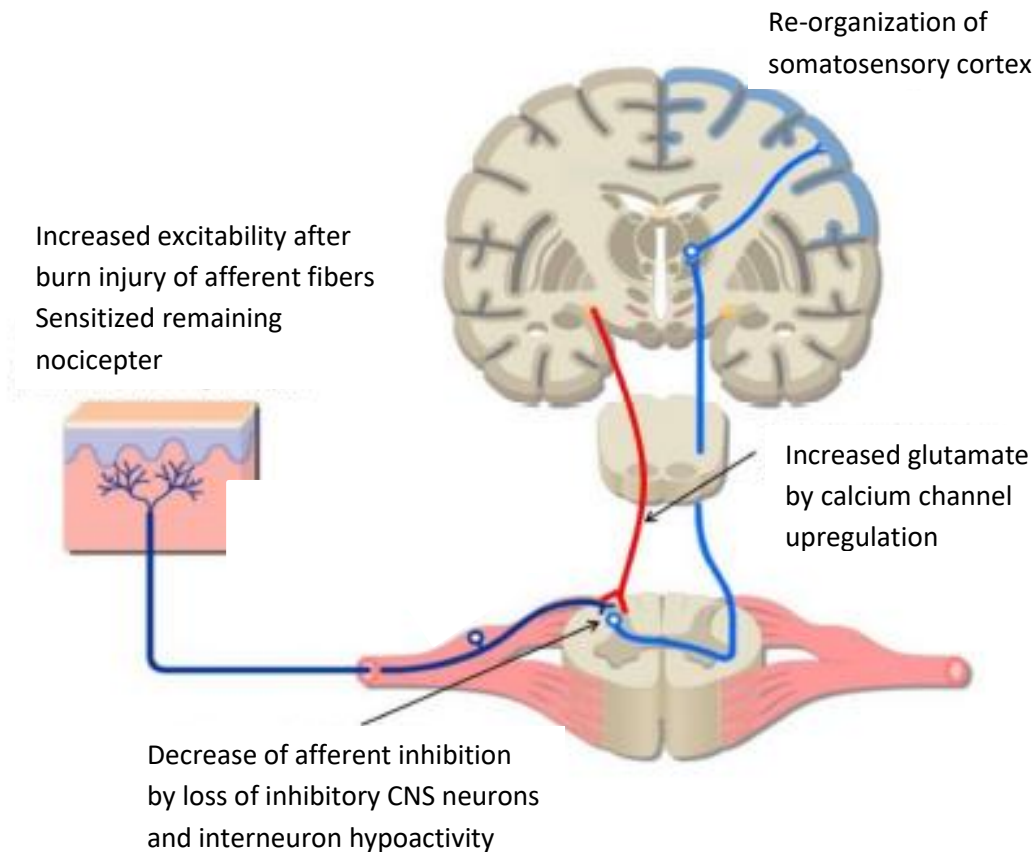
## Post-Burn Pruritus Management

### Background

- Pruritus affects burn patients during rehabilitation, occurring in 80-100% patients
- Prevalence decreases with time, but has been reported to last years in some patients
- Risk of Pruritus is higher in women, patients with larger burn areas, those who require more surgical intervention, and limb and facial burns
- This can cause sleep disturbances, impairment of daily activities, and psychiatric problems

### Proposed Mechanisms

- Patients with burns are subject to increased excitability after injury of afferent fibers
- Pruritic signals pass through C-fibers that originate in the skin
- Neuropathic Pruritus can occur due to peripheral or central sensitization
- Additionally, there is a decreased ability to inhibit pruritic signals to and from the brain



### Assessment of itch severity

- **Inpatient or outpatient:** The “Itch Man”
- **Outpatient:** The 5-D pruritus scale has been proven to correlate closely with a visual analog score to assess duration, degree, direction, disability, and distribution of Pruritus
  - Score ranges from 5 (no pruritus) to 25 (severe pruritus)
- See Appendix 1 and 2 for examples of each scale

### Inpatient Pruritus Treatment Algorithms

| Intact Skin  |   |   |   |
|--|---|---|---|
|  | Non-Pharmacologic   | 1 <sup>st</sup> line Pharmacologic  | 2 <sup>nd</sup> Line Pharmacologic  |
| <b>Itch-Man<br/>Score 0-1</b>  | <b>Topical</b><br>Emollients: Derm-aid<br>aloe, Aloe vera lotion,<br>Aquaphor<br><br>Vitamin E lotion<br><br>Massage therapy<br>Pressure dressings<br>Unna boot | <b>Topical</b><br>Capsaicin cream   | <b>Oral</b><br><br>loratadine 10 mg daily<br><br>and<br><br>famotidine 20 mg twice daily  |
|  | <b>Topical</b><br>Emollients: Derm-aid<br>aloe, Aloe vera lotion,<br>Aquaphor<br><br>Vitamin E lotion<br><br>Massage therapy<br>Pressure dressings<br>Unna boot | <b>Topical</b><br>Capsaicin cream<br><br><b>Oral</b><br>loratadine 10 mg daily<br>+<br>famotidine 20 mg twice daily | <b>Oral</b><br>Gabapentin* 300-900 mg/day<br>in 3 divided doses<br><br>and/or<br><br>Ondansetron^ 4 mg every 8<br>hours as needed |
| <b>Non-pharmacologic last-line alternative</b><br>Psychology consult hypnosis or laser therapy |   |   |   |

\*Evaluate renal function and dose appropriately

^Monitor electrocardiogram and QTc interval as necessary

| Open Wounds  |   |  |   |
|--|---|--|---|
|  | 1 <sup>st</sup> line Pharmacologic  | 2 <sup>nd</sup> Line Pharmacologic                               | 3 <sup>rd</sup> line Pharmacologic                              |
| <b>Itch-Man<br/>Score 0-4</b>  | <b>Topical</b><br>Not recommended   | <b>Oral</b><br>Hydroxyzine 10-25 mg 3-4<br>times daily as needed | <b>Oral</b><br>Gabapentin* 300-900<br>mg/day in 3 divided doses |
|  | <b>Oral</b><br>loratadine 10 mg daily<br>+<br>famotidine 20 mg twice<br>daily | and/or<br><br>Promethazine 25 mg Q6-8<br>hours as needed         | and/or<br><br>Ondansetron^ 4 mg every<br>8 hours as needed      |
| <b>Non-pharmacologic last-line alternative</b><br>Psychology consult hypnosis or laser therapy |   |  |   |

\*Evaluate renal function and dose appropriately

^Monitor electrocardiogram and QTc interval as necessary

**Outpatient Pruritus Treatment Algorithms**

|   | <b>Non-Pharmacologic</b>  | <b>1<sup>st</sup> line Pharmacologic</b>   | <b>2<sup>nd</sup> Line Pharmacologic</b>  |
|---|---|--|---|
| <b>Itch-Man Score 0-1</b><br><br><b>5D Pruritus Score 5-14</b>                  | Ice packs<br>Oatmeal baths<br>Massage therapy<br>Pressure dressings<br><br><b>Topical</b><br>Emollients: Aloe vera lotion, Aquaphor<br><br>Vitamin E lotion | <b>Topical</b><br>Capsaicin cream#   | <b>Oral</b><br><br>loratadine 10 mg daily<br><br>+<br>famotidine 20 mg twice daily  |
| <b>Itch-Man Score 2-4</b><br><br><b>5D Pruritus Score 15-25</b>                 | Ice packs<br>Oatmeal baths<br>Massage therapy<br>Pressure dressings<br><br><b>Topical</b><br>Emollients: Aloe vera lotion, Aquaphor<br><br>Vitamin E lotion | <b>Topical</b><br>Capsaicin cream#<br><br><b>Oral</b><br><br>loratadine 10 mg daily<br><br>+<br>famotidine 20 mg twice daily | <b>Oral</b><br>Gabapentin* 300-900 mg/day in 3 divided doses <u>or</u><br>pregabalin* 150-300 mg/day in 2 divided doses<br><br>and/or<br>Hydroxyzine 10-25 mg 3-4 times daily as needed<br><br>and/or<br>Promethazine 25 mg Q6-8 hours as needed<br><br>and/or<br>Ondansetron^ 4 mg every 8 hours as needed |
| <b>Non-pharmacologic last-line alternative</b><br>Laser Therapy and/or Hypnosis |   |  |   |

\*Evaluate renal function and dose appropriately

^Monitor electrocardiogram and QTc interval as necessary

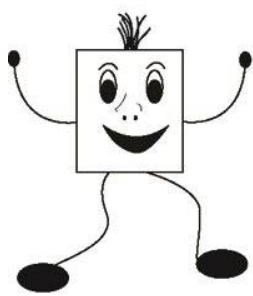
#Ensure appropriate education is provided on safe and effective application

References

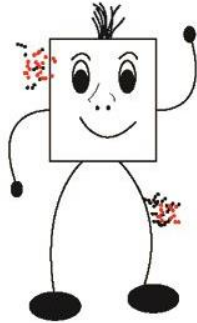
1. Chung BY, et al. Post-burn Pruritus. *Int J Molec Sci.* 2020;21(3880):1-15.
2. Kim Y, et al. Development of a postburn Pruritus relief protocol. *Rehab Nursing Journal.* 2018;43(6):315-26.
3. Morris V, et al. Itch assessment scale for the pediatric burn survivor. *J Burn Care Res.* 2012;33(3):419-24.
4. Goutos I, et al. Review of therapeutic agents for burns Pruritus and protocols for management in adult and paediatric patients using the GRADE classification. *Indian J Plast Surg.* 2010;43(Suppl):S51-
5. Brooks JP, et al. Scratching the surface – managing the itch associated with burns: A review of current knowledge. *Burns.* 2008;34:751-60.
6. Elman S, et al. The 5-D itch scale: a new measure of Pruritus. *Br J Dermatol.* 2010;162(3):587-93.

## Appendix 1

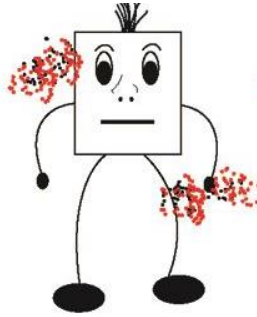
### The "Itch-Man"



**0**  
Comfortable,  
no itch



**1**  
Itches a little;  
does not interfere  
with activity



**2**  
Itches more;  
sometimes interferes  
with activity



**3**  
Itches a lot;  
difficult to be  
still, concentrate



**4**  
Itches most terribly;  
impossible to sit  
still; concentrate

## Appendix 2 Outpatient Itch Scale

### 5-D Pruritus Scale

**1. Duration :** During the last 2 weeks, how many hours a day have you been itching?

|                               |                               |                               |                               |                               |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Less than 6hrs/day            | 6-12 hrs/day                  | 12-18 hrs/day                 | 18-23 hrs/day                 | All day                       |
| <input type="checkbox"/><br>1 | <input type="checkbox"/><br>2 | <input type="checkbox"/><br>3 | <input type="checkbox"/><br>4 | <input type="checkbox"/><br>5 |

**2. Degree :** Please rate the intensity of your itching over the past 2 weeks

|                               |                               |                               |                               |                               |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Not present                   | Mild                          | Moderate                      | Severe                        | Unbearable                    |
| <input type="checkbox"/><br>1 | <input type="checkbox"/><br>2 | <input type="checkbox"/><br>3 | <input type="checkbox"/><br>4 | <input type="checkbox"/><br>5 |

**3. Direction :** Over the past 2 weeks has your itching gotten better or worse compared to the previous month?

|                               |                                |                                      |                               |                               |
|-------------------------------|--------------------------------|--------------------------------------|-------------------------------|-------------------------------|
| Completely resolved           | Much better, but still present | Little bit better, but still present | Unchanged                     | Getting worse                 |
| <input type="checkbox"/><br>1 | <input type="checkbox"/><br>2  | <input type="checkbox"/><br>3        | <input type="checkbox"/><br>4 | <input type="checkbox"/><br>5 |

**4. Disability:** Rate the impact of your itching on the following activities over the last 2 weeks

|                          |                               |                                    |                                  |   |   |
|--------------------------|-------------------------------|------------------------------------|----------------------------------|---|---|
|                          | Never affects sleep           | Occasionally delays falling asleep | Frequently delays falling asleep | Delays falling asleep and occasionally wakes me up at night | Delays falling asleep and frequently wakes me up at night |
| <b>Sleep</b>             | <input type="checkbox"/><br>1 | <input type="checkbox"/><br>2      | <input type="checkbox"/><br>3    | <input type="checkbox"/><br>4                               | <input type="checkbox"/><br>5                             |
|                          | N/A                           | Never affects this activity        | Rarely affects this activity     | Occasionally affects this activity                          | Frequently affects this activity                          |
| <b>Leisure/Social</b>    | <input type="checkbox"/>      | <input type="checkbox"/><br>1      | <input type="checkbox"/><br>2    | <input type="checkbox"/><br>3                               | <input type="checkbox"/><br>4                             |
| <b>Housework/Errands</b> | <input type="checkbox"/>      | <input type="checkbox"/><br>1      | <input type="checkbox"/><br>2    | <input type="checkbox"/><br>3                               | <input type="checkbox"/><br>4                             |
| <b>Work/School</b>       | <input type="checkbox"/>      | <input type="checkbox"/><br>1      | <input type="checkbox"/><br>2    | <input type="checkbox"/><br>3                               | <input type="checkbox"/><br>4                             |

**5. Distribution:** Mark whether itching has been present in the following parts of your body over the last 2 weeks. If a body part is not listed, choose the one that is closest anatomically.

|                   |                          |   |                          |
|-------------------|--------------------------|---|--------------------------|
|                   | Present                  |   | Present                  |
| Head/Scalp        | <input type="checkbox"/> | Soles   | <input type="checkbox"/> |
| Face              | <input type="checkbox"/> | Palms   | <input type="checkbox"/> |
| Chest             | <input type="checkbox"/> | Tops of Hands/Fingers                                       | <input type="checkbox"/> |
| Abdomen           | <input type="checkbox"/> | Forearms  | <input type="checkbox"/> |
| Back              | <input type="checkbox"/> | Upper Arms  | <input type="checkbox"/> |
| Buttocks          | <input type="checkbox"/> | Points of Contact w/ Clothing (e.g waistband, undergarment) | <input type="checkbox"/> |
| Thighs            | <input type="checkbox"/> | Groin   | <input type="checkbox"/> |
| Lower legs        | <input type="checkbox"/> |   |                          |
| Tops of Feet/Toes | <input type="checkbox"/> |   |                          |