Dermatology for the Internist

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Why Should I Care?

53% of all skin related visits are to non dermatologists

Skin conditions presenting to non dermatologists are different from those presenting to dermatologists

There is a shortage of dermatologists

Patient expectations
Table 1.
Skin-Related Visits Across All Specialties (2001-2010)\textsuperscript{a}

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Total Visits</th>
<th>Skin-Related Visits</th>
<th>Skin-Related Visits as Percentage of All Specialty Visits</th>
<th>Percentage of All Skin-Related Visits\textsuperscript{b}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatology</td>
<td>343,400,000</td>
<td>343,400,000</td>
<td>100%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Emergency medicine</td>
<td>18,780,000</td>
<td>1,770,000</td>
<td>9.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Family medicine</td>
<td>2,184,000,000</td>
<td>149,500,000</td>
<td>6.8%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>1,468,000,000</td>
<td>67,210,000</td>
<td>4.6%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>1,201,000,000</td>
<td>82,020,000</td>
<td>6.8%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Otolaryngology</td>
<td>196,400,000</td>
<td>7,510,000</td>
<td>3.8%</td>
<td>1.0%</td>
</tr>
<tr>
<td>General surgery</td>
<td>192,600,000</td>
<td>24,870,000</td>
<td>12.9%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Data from the National Ambulatory Medical Care Survey.

\textsuperscript{b}Not all specialties are identified here. The total number of outpatient skin-related visits was 728,500,000.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Condition</th>
<th>Dermatologists</th>
<th>Nondermatologists</th>
<th>Referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acne</td>
<td>30,070 (13.2)</td>
<td>51,692 (12.0)</td>
<td>Benign tumor 6,717 (10.6)</td>
</tr>
<tr>
<td>2</td>
<td>Actinic keratosis</td>
<td>33,722 (11.4)</td>
<td>36,811 (8.5)</td>
<td>Acne 6,496 (10.1)</td>
</tr>
<tr>
<td>3</td>
<td>NMSC</td>
<td>26,033 (9.5)</td>
<td>17,118 (4.0)</td>
<td>NMSC 6,173 (9.7)</td>
</tr>
<tr>
<td>4</td>
<td>Benign tumor</td>
<td>25,423 (8.0)</td>
<td>18,853 (3.9)</td>
<td>Contact dermatitis 5,684 (8.8)</td>
</tr>
<tr>
<td>5</td>
<td>Contact dermatitis</td>
<td>25,376 (8.5)</td>
<td>16,823 (3.9)</td>
<td>Acne 4,977 (7.8)</td>
</tr>
<tr>
<td>6</td>
<td>Seborrheic keratosis</td>
<td>16,659 (5.9)</td>
<td>15,988 (3.7)</td>
<td>Viral warts 3,400 (5.3)</td>
</tr>
<tr>
<td>7</td>
<td>Viral warts</td>
<td>14,607 (5.0)</td>
<td>13,161 (3.1)</td>
<td>Seborrheic keratosis 3,175 (5.6)</td>
</tr>
<tr>
<td>8</td>
<td>Psoriasis</td>
<td>12,598 (4.2)</td>
<td>13,089 (3.0)</td>
<td>Psoriasis 2,555 (3.7)</td>
</tr>
<tr>
<td>9</td>
<td>Rosacea</td>
<td>9,460 (3.2)</td>
<td>11,776 (2.2)</td>
<td>Rosacea 2,060 (3.2)</td>
</tr>
<tr>
<td>10</td>
<td>Epidermoid cyst</td>
<td>9,734 (2.3)</td>
<td>11,217 (2.6)</td>
<td>Epidermoid cyst 1,600 (2.5)</td>
</tr>
<tr>
<td>11</td>
<td>Dysesthesia</td>
<td>6,056 (1.1)</td>
<td>10,115 (2.3)</td>
<td>Dysesthesia 1,472 (2.3)</td>
</tr>
<tr>
<td>12</td>
<td>Tinea</td>
<td>5,162 (1.1)</td>
<td>9,884 (2.3)</td>
<td>Tinea 1,431 (2.3)</td>
</tr>
<tr>
<td>13</td>
<td>Neoplasm of uncertain behavior of skin</td>
<td>5,157 (1.7)</td>
<td>Acne 9,913 (2.3)</td>
<td>Tinea 1,272 (2.2)</td>
</tr>
<tr>
<td>14</td>
<td>Disorder of skin, NOS</td>
<td>4,706 (1.6)</td>
<td>8,594 (2.0)</td>
<td>Epidermoid cyst 1,267 (2.2)</td>
</tr>
<tr>
<td>15</td>
<td>Seborrheic dermatitis</td>
<td>4,200 (1.4)</td>
<td>Insect bite 6,348 (1.9)</td>
<td>Neoplasm of uncertain behavior of skin 1,231 (1.9)</td>
</tr>
<tr>
<td>16</td>
<td>Alopecia</td>
<td>3,956 (1.9)</td>
<td>Ulcer 7,299 (1.7)</td>
<td>Atopic dermatitis 1,061 (1.7)</td>
</tr>
<tr>
<td>17</td>
<td>Atopic dermatitis</td>
<td>3,657 (1.2)</td>
<td>Urticaria, NOS 6,868 (1.6)</td>
<td>Urticaria, NOS 822 (1.3)</td>
</tr>
<tr>
<td>18</td>
<td>Keratoderma</td>
<td>2,687 (1.0)</td>
<td>Ichthyosis, NOS 6,817 (1.5)</td>
<td>Ichthyosis, NOS 601 (1.2)</td>
</tr>
<tr>
<td>19</td>
<td>Other specified disorders of skin</td>
<td>2,655 (1.0)</td>
<td>Impetigo 5,965 (1.4)</td>
<td>Other specified disorders of skin 684 (1.1)</td>
</tr>
<tr>
<td>20</td>
<td>Other specified disease of hair/ hair follicles</td>
<td>2,485 (0.8)</td>
<td>Uncomplicated herpes simplex 5,662 (1.2)</td>
<td>Seborrheic dermatitis 681 (1.1)</td>
</tr>
</tbody>
</table>

**Table 2.** Top 20 Dermatologic Conditions Seen by Dermatologists and Nondermatologists and Referrals to Dermatologists by Nondermatologists (2001-2010)

Abbreviations: NMSC, nonmelanoma skin cancer; NOS, not otherwise specified.

*Data from the National Ambulatory Medical Care Survey.

*In thousands.

*Reflects total of skin-related diagnoses (dermatologists, N=266,100,000; nondermatologists, N=451,370,000; referrals, N=83,590,000).
## Most Common Dermatologic Diagnoses in Primary Care

<table>
<thead>
<tr>
<th>Condition</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Contact dermatitis</td>
<td>Varicose veins</td>
</tr>
<tr>
<td>Cellulitis/Abscess</td>
<td>“Benign tumor”</td>
</tr>
<tr>
<td>“Rash”</td>
<td>Candida</td>
</tr>
<tr>
<td>Cyst</td>
<td>Herpes zoster</td>
</tr>
<tr>
<td>Tinea</td>
<td>Acne</td>
</tr>
<tr>
<td>Warts</td>
<td></td>
</tr>
</tbody>
</table>
Contact Dermatitis

Allergic
- Delayed hypersensitivity
- Usually geometric or linear if acute
- Rhus, nickel, neomycin, fragrance mix, balsam of peru, quaternium 15, formaldehyde

Irritant
- Due to direct skin damage
- Soap, hand sanitizers, friction, chemicals for cleaning, chemicals at work
Allergic Contact Dermatitis
Allergic Contact Dermatitis

Treatment
- Potent topical steroids (clobetasol, betamethasone dipropionate, halobetasol)
- IM triamcinolone
- Oral steroids (not dosepacks)
- Cool compresses
Irritant Contact Dermatitis
Irritant Contact Dermatitis

Treatment
- Irritant avoidance
- Emollients
- Barrier creams (dimethicone)
- Topical steroids
- IM/Oral steroids
Cellulitis

Acute spreading infection of dermis and subcutis

Most common pathogen is S. areus

Erysipelas is cellulitis involving superficial lymphatics, caused by beta hemolytic strep. Often involves face

RARELY BILATERAL!
Cellulitus
Cellulitis (Erysipelas)
Cellulitis

Treatment

◦ Obtain culture
◦ Oral/IV antibiotics
  ◦ Cover for Staph and/or strep, MRSA if suspected
  ◦ Consider gram(-) in diabetics, poor foot hygiene
◦ Elevate extremity
◦ Symptomatic relief
Abscess

Localized inflammation associated with an accumulation of puss

May have rapid onset or more slow clinical course

Usually caused by MSSA and MRSA
Abscess
Abscess

Treatment
- Incision and drainage
- Warm compresses
- Antibiotics for surrounding cellulitis or if I&D not successful
- Culture wound
“Rash” aka Morbilliform Eruptions

Mimics a measles like eruption

THE “maculopapular rash”

May be due to drug or virus

Indistinguishable clinically and often histologically
Morbilliform Eruptions

DRUG ERUPTION

VIRAL EXANTHEM
Morbilliform Eruptions

**DRUG ERUPTION**

Temporally related to a drug (usually 1-4 weeks but may be years!)

Remove offending drug

Treat with topical/oral steroids, antihistamines

Takes 2-8 weeks to resolve (remind your patients)

**VIRAL EXANTHEM**

May have other symptoms associated with viral infection such as fever, cough, sore throat, rhinorrhea

May feel perfectly well

Ask about recent exposure to illness

Treat same as drug eruption
Epidermal Cysts

An epithelial lined tumor within the dermis
Filled with keratin debris
Usually has a pore (except pilar cysts)
May turn into abscess
Epidermal Cysts
Recognize Her?
TOP 10 BEST

PART 1

HARDPOPS 2015
Cyst Treatment

- Punch excision
- Slit excision
- Elliptical excision
- Incise and Drain (squeeze)
Tinea

Superficial fungal infection of the skin

Caused by dermatophytes
  ◦ T. rubrum, T. tonsurans, Microsporum species

Named based on body locale
  ◦ Tinea faciei
  ◦ Tinea cruris
  ◦ Tinea pedis
  ◦ Tinea manuum, etc
Tinea

Clinical features
- Scaly plaques
- Advancing erythematous border
- Usually annular
- May have associated pustules (Majocchi’s granuloma)
Tinea Pedis
Tinea

Tinea Cruris

Tinea Corporis
Tinea

TINEA FACIEI
Tinea Treatment

Topical antifungals if no hair follicle involvement
- Imidazoles are fungistatic (miconazole)
- Allylamines are fungicidal (terbinafine)

Oral antifungals for extensive disease or hair follicle involvement
- Terbinafine
- Fluconazole
- Griseofulvin

Treat until skin is smooth (no scale) plus one week
Verruca Vulgaris

An epidermal growth caused by infection with Human Papilloma Virus (HPV)
Verruca Vulgaris
Verruca Vulgaris

TREATMENT

- CRYOTHERAPY
- ELECTROCAUTERY
- EXCISION
- CANTHARIDIN
- SALICYLIC ACID
- INTRALESIONAL CANDIDA
- INTRALESIONAL BLEOMYCIN
- TOPICAL 5FU
- TOPICAL IMIQUIMOD
Varicose Veins

Before

After
Varicose Veins

Treatment
- Compression
- Ablation
- Stripping
- REFER
“Benign Tumors”

Nevus
Seborrheic keratosis
Hemangioma
Cysts
“Benign Tumors”
Most Famous Resident

NEVIS

ALEXANDER HAMILTON
“Benign Tumors”

SEBORRHEIC KERATOSIS  HEMANGIOMA
Benign Tumors

Treatment is not necessary unless...
- Symptomatic (itch, pain, bleeding, etc)
- Suspicious clinically
- Impairs function

Modalities include cryosurgery, shave removal, excision, electrocautery
Candidiasis

Overgrowth of the yeast Candida albicans on skin or mucous membranes

- Thrush
- Intertrigo
- Vulvovaginal candidiasis
- Candida balanitis
Candidiasis

THRUSH

INTERTRIGO
Candidiasis Treatment

Topical (cream) nystatin

Oral nystatin (suspension or troches) for thrush

Topical imidazoles (allylamines NOT effective vs yeast)

Oral fluconazole

For intertrigo keep area dry and add low potency topical steroid (ketoconazole/2.5% HC)

Miconazole powder (Zeasorb AF) for intertrigo
Herpes Zoster

A vesicular eruption due to the reactivation of the Varicella Zoster virus.

Usually occurs in a dermatomal distribution

May itch or be painful

Does not cross midline

May be in two adjacent dermatomes

If crosses midline or in more than two dermatomes, should be considered “disseminated”
Herpes Zoster
Herpes Zoster

Treatment

Valacyclovir 1gram tid x 7 days
Famciclovir 500mg tid x 7 days
Acyclovir 800mg 5x daily x 7 days
Gabapentin or pregabalin for post herpetic neuralgia
Refer to ophthalmology for V1 or ocular involvement (nasal tip)
Acne

Inflammation of the pilosebaceous units

Pathogenesis

- Follicular plugging (microcomedone formation)
- Excess sebum production
- Bacterial overgrowth (P. acnes)
- Inflammation due to bacterial byproducts of sebum degradation
Acne
Acne Treatment

Gentle cleansing and daily moisturization

Topical retinoids (tretinoin, adapalene, tazarotene)

Topical antibiotics (clindamycin, sodium sulacetamide, erythromycin)

Benzoyl peroxide

Oral antibiotics (minocycline, doxycycline, ampicillin, tmp/smx, clindamycin)

BCP

Spironolactone

Isotretinoin