Medical Student Teaching and Clinical Efficiency—They Don't Have to Be Mutually Exclusive!

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Background

- Medical students request and expect to be active participants
- Challenging in high-volume, procedure-intensive Dermatology clinics
  - Efficiency
  - Patient satisfaction

Ramanayake RP, De Silva AH, Perera DP, Sumanasekara RD, Gunasekara R, and Chandrasiri P. Evaluation of Teaching and Learning in Family Medicine by Students: A Sri Lankan Experience. *J Family Med Prim Care.* 2015 Jan-Mar; 4(1): 3–8.

McGee SR and Irby DM. Teaching in the Outpatient Clinic Practical Tips. *J Gen Intern Med.* 1997 Apr; 12(Suppl 2): S34–S40.

Background—Current State

- “I was not always aware of what was expected of me.”
- “Students should be allowed to participate in simple procedures.”
- “It seemed like the students were not really involved in patient care very much.”
- “It would be great if the students could have more of an active role on the team.”
- “Students have a limited role. Mostly observation.”
- “Because the clinic is so busy it is difficult for students to get more involved. I would have liked the opportunity to see patients on my own and to do biopsies.”

Background—What did we want our future state to look like?

- Goal:
  - To allow students to take a more active role in clinic while at the same time maintaining clinical efficiency and patient satisfaction

Interventions

- Develop tools to acclimate medical student rotators to the clinic environment **prior** to seeing the first patient
  - Dermatology Quick Reference Card
  - Resident-Led Medical Student Orientation

Intervention #1

Vehicles

Ointments - lubricating; occlusive; greasy / Use in smooth, non-hair bearing skin; thick hyperkeratotic lesions/ increases penetration

Creams - less greasy; not occlusive; can sting/ Use in acute exudative inflammation

Lotions (thick liquid) - less greasy; less occlusive; may contain alcohol; penetrate easily with little residue / Use in hair bearing areas

Oils - Use on scalp or areas with coarse or curly hair

Gels - may contain alcohol; least occlusive; quick drying / Use for acne; on the scalp or hairy areas without matting

Foams - easily spray; typically more $$$ / use in hairy areas

ABCDE's of Melanoma

A — Asymmetry

One half of the mole does not match the other half

B — Border

The borders of the mole are irregular, ragged, blurred, or notched

C — Color

The color of the mole is not the same throughout the lesion. There are different colors (shades of brown, red, white, blue)

D — Diameter

The mole is larger than 6mm (roughly the size of a pencil eraser)

E — Evolution

The mole has changed (growing, change in shape/color)

Acne Treatment

Mild

1. Topical retinoid if comedones only
   - Tretinoin
   - Tazarotene
   - Adapalene
2. Add topical antimicrobial if papular or pustular
   - Benzoyl peroxide (BP) wash
   - Dapsone gel
   - Clindamycin gel
   - Azelaic acid cream

Moderate

Topical retinoid plus:

1. Oral antibiotic
   - Doxycycline 100 mg BID
   - Minocycline 100 mg BID
   - Trimethoprim-sulfamethoxizole DS BID

2. In women, consider hormonal agents if acne seems to flare around menses
   - Spironolactone 50 mg to 200 mg daily (needs a K+ at baseline and in 30 days)
   - Oral contraception containing spironolactone (e.g., Drospirenone/Ethinyl Estradiol)

Severe (cystic, nodule, scarring)

1. Topical retinoid + BP wash/topical antibacterial combination (e.g., benzoyl peroxide and clindamycin , clindamycin phosphate and benzoyl peroxide) + Oral antibiotiotic

2. Isotretinoin

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DEPARTMENT OF DERMATOLOGY

Dermatology Quick Reference Card

SAINT LOUIS UNIVERSITY

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Describing Lesions

Distribution - How the skin lesion(s) are distributed on the body (e.g., localized, generalized, acral, dermatomal, photo distributed)

Primary Skin Lesions – A lesion directly associated with the disease process

Macule – A circumscribed **flat** area **<1 cm** in diameter of discoloration without elevation or depression of surface relative to surrounding skin

Patch – A circumscribed **flat** area **>1 cm in diameter** of discoloration without elevation or depression of surface relative to surrounding skin

Papule – A circumscribed, **elevated**, solid lesion, **<1 cm in diameter**

Plaque – A well-circumscribed, **elevated**, superficial, solid lesion, **>1 cm in diameter**

Vesicle – A small, superficial, circumscribed elevation of the skin, **< 0.5 cm in diameter**, which **contains serous fluid**

Bulla (pl. Bullae) – A raised, circumscribed lesion **> 0.5 cm in diameter**, which **contains serous fluid**

Pustule – A small (**< 1 cm in diameter**), circumscribed superficial elevation of the skin that is **filled with purulent material**

Nodule – A palpable, solid lesion, **> 1 cm in diameter**, typically found in the dermal or subcutaneous tissue. The lesion may be above, level with, or below the skin surface

Tumor – Solid, firm lesions typically **> 2 cm** in diameter that can be above, level with, or beneath the skin surface

Secondary Skin Lesions – Changes in the skin that result from primary skin lesions, either as a natural progression or as a result of a person manipulating (e.g. scratching or picking at) a primary lesion

Scale – Visible fragments of stratum corneum on the skin

Erosion – Loss **of superficial layers of epidermis** by wearing away as from friction or pressure

Fissure – **Sharply**-defined, linear or wedge-shaped tears in the epidermis with abrupt walls

Ulceration – A localized defect in the skin of irregular size and shape where **epidermis and some dermis have been lost**

Lichenification – Diffuse **thickening** of the epidermis, with resulting **accentuation of skin lines**

Shapes and Arrangements of Lesions

Annular – **Ring-like** configuration

Serpiginous – Lesions that are **wavy or serpent-like**

Reticular – Lesions that are **net-like**

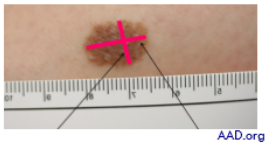
Targetoid – Lesions that resemble a **bull's eye** (a central erythematous papule, macule, or vesicle, surrounded by an area of pale edema, surrounded by a peripheral area of erythema)

Linear – Arrangement of lesions resembling a **line**

Grouped – Lesions that are **clustered** together

Measuring Lesions

Measure the longest axis, and then measure the perpendicular axis



Topical Therapy

What goes into a Prescription (example)

Desonide 0.5% cream (name of medication, concentration, vehicle)

Apply to affected area BID PRN for rash (sig – directions)

#15G (amount)

RF 3 (number of refills)

Steroids are organized into classes based on strength (potency)

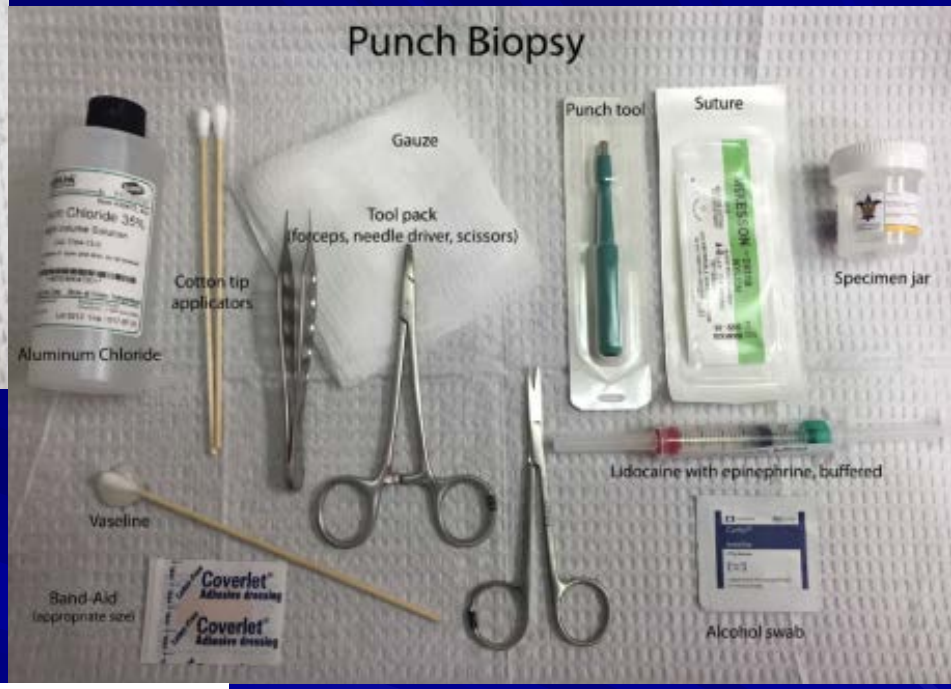
Potency	Class	Best use	Examples
Very high	I	Severe dermatoses; non-facial, non-intertriginous	Clobetasol propionate 0.05% cream/ ointment/gel
High	II	Mild to moderate dermatoses; non-facial, non-intertriginous, okay to use on flexural areas for a limited time	Fluocinonide 0.05% cream/ gel/ ointment/ lotion
Medium	III - IV		Triamcinolone acetonide 0.1% ointment/ cream
Low	V - VII	Mild dermatoses; Best choice for thinner skin (eye, face, genital intertriginous skin)	Hydrocortisone 2.5% cream/ lotion/ ointment

Potency is inherent to the molecule; it is NOT related to %

Intervention #2

Resident-Led Student Orientation

- Developed as part of a resident QI project
- At the beginning of student rotation
- Topics covered:
  - Communicate expectations of medical student rotator involvement in the patient visit by residents and attending physicians
  - Teach how to add attending schedules to their schedules in Epic
  - Review commonly used note templates
  - Teach/demonstrate how to set up punch/shave biopsy trays
  - Provide orientation to clinic (where supplies are located, etc.)



Adding an Attending/Clinic Schedule

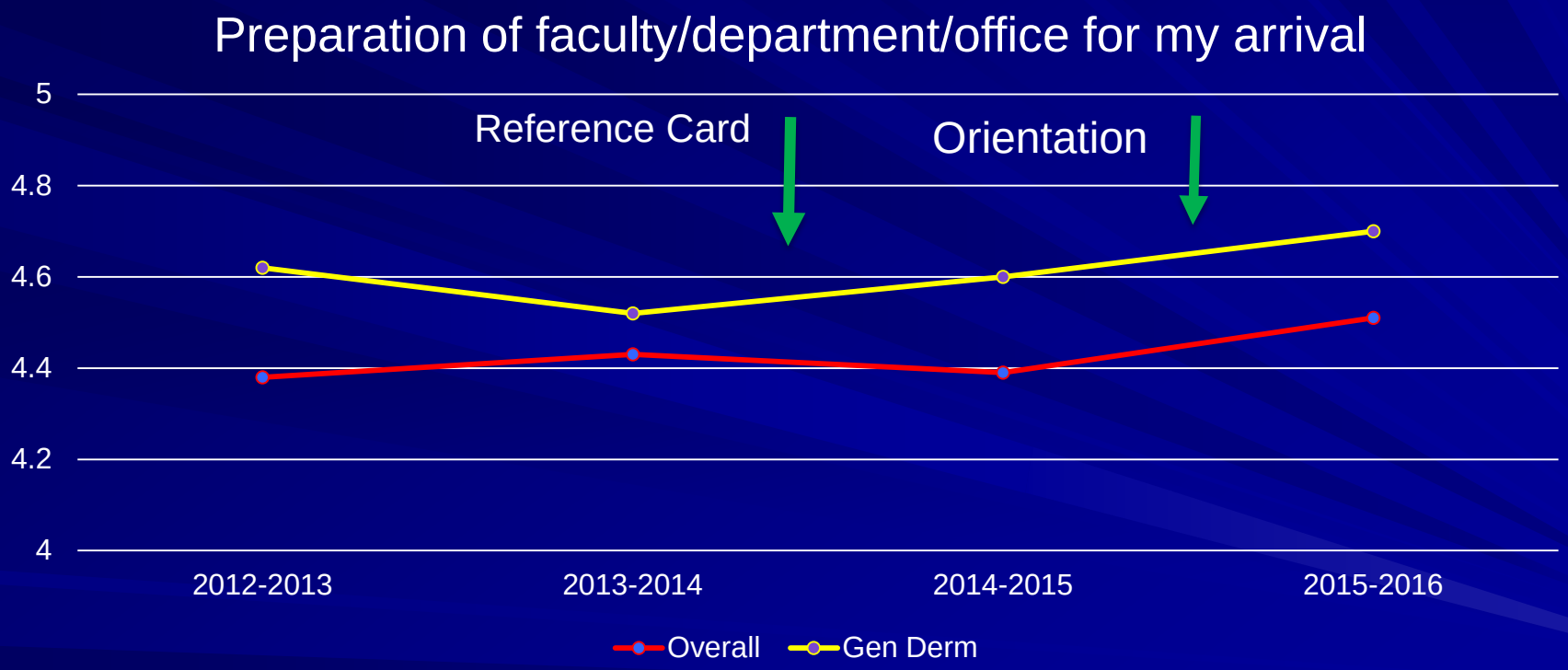
- Go to the "Schedule" tab
- Click "Create"
- In the "General" tab , type a name in "Name" field
- Select the "Configuration" tab
- Search by provider name in the "Add provider/resource" field
- Click on desired name
- Click "Accept"
- Schedule should now be available under "My schedules"

Frequently used Note Templates

- DER: SLU GEN INFLAM NEW
- DER: SLU GEN INFLAM EST
- DER: SLU GEN SKIN EXAM NEW
- DER: SLU GEN SKIN EXAM EST

Notes:

Did We Make a Difference?



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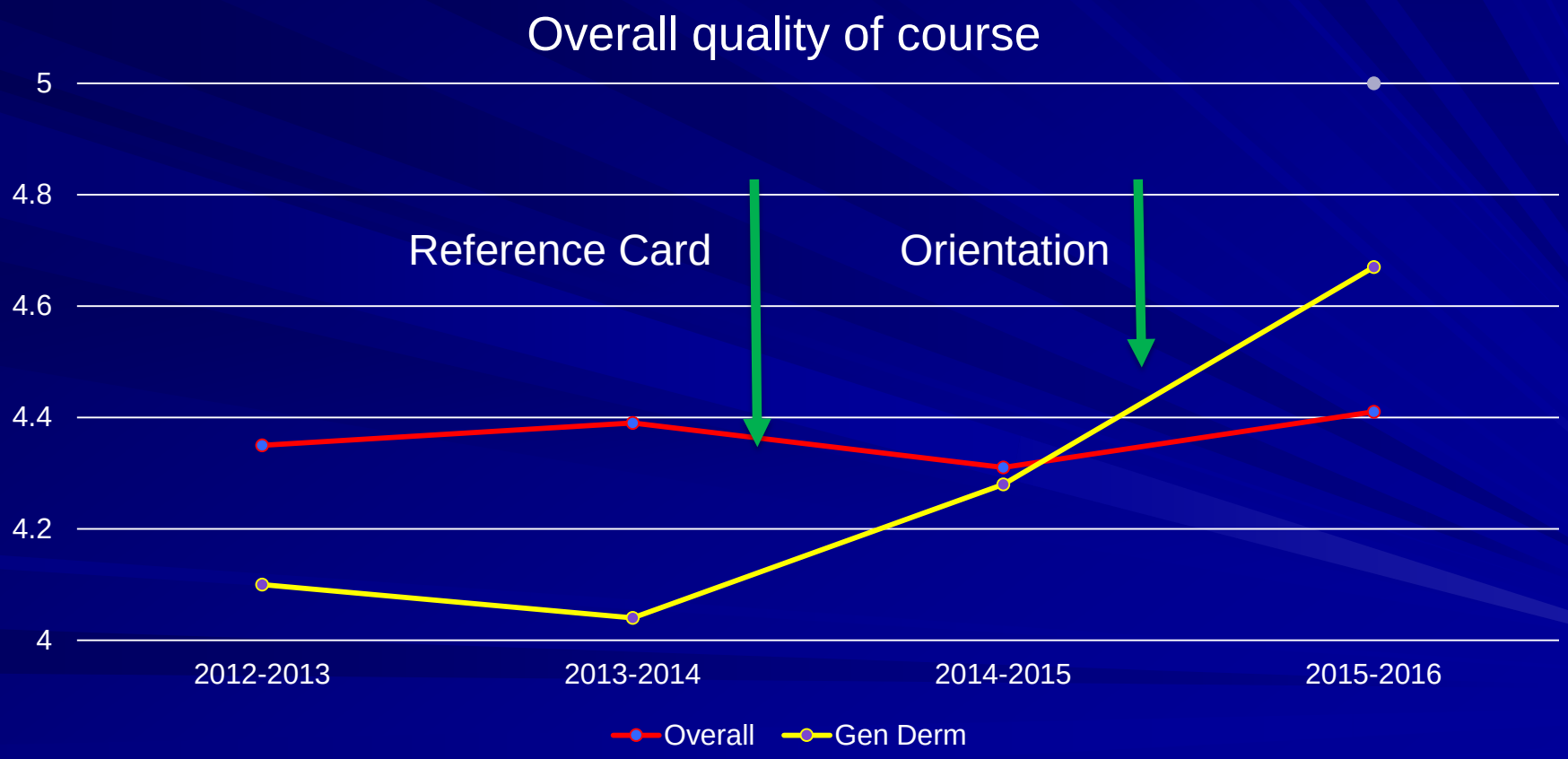

Student Evaluation Comments

- “Residents and preceptors all let me be as involved as I wanted to be.”
- “Allowed me to see patients on my own and present them, as well as write my own notes.”
- “There is a great balance between autonomy and supervision.”
- “Increasing responsibility was given to me gradually over the course of the rotation, allowing me to feel like a contributing member of the team and I grew and took ownership of my patients.”
- “Great teaching and inclusion by attendings and residents.”

Downstream Effects

- No faculty or staff feedback that clinics are running less efficiently
- No decline in Press Ganey overall patient satisfaction scores

Limitations

- Only two years' worth of data
- Other factors at play for improved evaluations???
- No control population

Summary

- It is possible to allow students to take a more active role in clinic while at the same time maintaining clinical efficiency
- Consider introducing tools to acclimate students to the clinical environment prior to seeing patients
  - Dermatology Quick Reference Card
  - Resident-led Student Orientation
- Students' experience and evaluations may be positively impacted

Thank You!