Review of Year 2 SBM/Dermatology course

• Spring 2016 version of course reviewed
• Version 9/27/16
• MEC Subcommittee Group consisted of:
  – Dave Nierenberg, MD (SBM co-director)
  – Denise Aaron, MD (course director)
  – Rich Comi, MD (ex-course director, ex-co-director of SBM)
  – Christian Rees, MD/PhD student who took the course in 2015
Review of Year 2 SBM/Dermatology course

- Course occurs in the fourth term of Year (mid-February through late March); course last offered Term 4, 2016
- Course Director: Dr. Denise Aaron (for past 3 years)
- Course has 24.5 curricular hours
- Course was last reviewed by MEC in 2012 (we think, don’t have copy of review)
- CD has received annual letters of review from Dr. Nierenberg each year
Action Plan from Prior Review

• We believe last review was in 2012

• Recommendations (and responses) included:
  – Decrease number/% of standard lectures (dropped from 86% down to about 75%, now about 72%)
  – Ensure that course objectives are made clear for students (now posted on Canvas site, and in course notes)
  – Ensure that session objectives are posted within each session, e.g. powerpoint (on review vast majority comply; 2 lecturers need to add objectives to their materials)
  – Increase the number/percent of questions that include a clinical vignette within the stem, vs simply recognizing a visual image (currently 8 questions identify image/disease only and 35 identify image and integrate with case)
Action Plan from Prior Review

• In 2016, Dr. Nierenberg suggested in his letter:
  – Increase emphasis on understanding **Pathophysiology** of skin diseases
  – Decrease emphasis on simple visual recognition of skin diseases on final exam (about 50% of exam items)
  – Increase content of final exam questions about pathophysiology, management, diagnosis, or prognosis of skin diseases

• In 2015, Dr. Nierenberg suggested:
  – Work to reduce unintended overlap of content between course lecturers
  – Current MEC subcommittee identified several topics of potential overlap esp. in infectious disease. However, concluded that the material was complimentary not repetitive, ie, derm focusing on identification and physical findings of skin infections and ID focusing on treatment, resistance, etc.
<table>
<thead>
<tr>
<th>#</th>
<th>OBJECTIVE</th>
<th>EXAM 2016 #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Learn and apply useful knowledge of <strong>the most current basic science</strong> that help to explain normal skin and adnexal, hair, nails and mucous membrane structure and function, health, <strong>and the pathophysiology of</strong> disease, such that this knowledge can be used to improve patient care.</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td><strong>Define terms</strong> relevant and common to the discussion of patients with disorders of the skin, hair, nails and mucous membranes.</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td><strong>Correlate cutaneous symptoms</strong> and <strong>signs</strong> with dermatologic diseases.</td>
<td>35</td>
</tr>
<tr>
<td>4</td>
<td><strong>Explain the approach to the diagnosis and evaluation</strong> of common and important cutaneous diseases such as eczema and contact dermatitis, papulosquamous disorders, major bullous disorders, follicular disorders such as acne, diseases affecting the hair and nails, cutaneous infections, connective tissue diseases and skin cancer.</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>List and explain <strong>the typical findings, presentation, clinical course, natural history and complications</strong> of common and important cutaneous disorders as in number 4.</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>List and explain how <strong>environmental challenges to the skin</strong> affect cutaneous health resulting in disease states (e.g. UV radiation, chemical contactants)</td>
<td>5</td>
</tr>
<tr>
<td>#</td>
<td>OBJECTIVE</td>
<td>EXAM 2016 #</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>7</td>
<td>Explain the basis for pharmacological and non-pharmacological interventions for cutaneous diseases.</td>
<td>14</td>
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<tr>
<td>8</td>
<td>Describe the pathophysiology and major pathologic features as well as the epidemiology of common and important cutaneous diseases including neoplasms, cutaneous manifestations of infection, cutaneous manifestations of connective tissue disease, disorders of the hair and nails, cutaneous manifestations of systemic disease.</td>
<td>8</td>
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<tr>
<td>9</td>
<td>Compare the pediatric skin examination to the adult complete skin exam and to list common benign cutaneous neoplasms of children and adults.</td>
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<tr>
<td>10</td>
<td>Explain how the expression of pediatric cutaneous disease and normal cutaneous findings may differ from adult.</td>
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<tr>
<td>11</td>
<td>Practice and demonstrate systematic skills of physical diagnosis to describe findings of patients with cutaneous disease.</td>
<td>PE session</td>
</tr>
<tr>
<td>12</td>
<td>Communicate with fellow students and faculty about patients with cutaneous disease.</td>
<td>PE session</td>
</tr>
<tr>
<td>#</td>
<td>OBJECTIVE</td>
<td>EXAM 2016 #</td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>13</td>
<td><strong>Demonstrate team skills</strong> by participating in physical diagnosis session.</td>
<td>PE session</td>
</tr>
<tr>
<td>14</td>
<td><strong>Examine patients skillfully and respectfully</strong>, with appropriate attention to student cleanliness, infection control, and patient comfort and privacy.</td>
<td>PE session</td>
</tr>
<tr>
<td>15</td>
<td><strong>Generate an appropriate differential diagnosis</strong>, based on logical clinical assessment and guided by appropriate statistical reasoning.</td>
<td>? Reword objective</td>
</tr>
<tr>
<td>16</td>
<td><strong>Communicate effectively with physician colleagues verbally</strong> relating the findings of a cutaneous physical examination in concise and accurate terms.</td>
<td>PE session</td>
</tr>
<tr>
<td>17</td>
<td><strong>Take responsibility for his or her own medical education</strong></td>
<td>Delete</td>
</tr>
<tr>
<td>18</td>
<td><strong>Recognize the importance of ethnic and cultural diversity</strong> in treating the skin **</td>
<td>18</td>
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</tbody>
</table>
Course Objectives – Comments

- Shorten and clarify several of the objectives (1, 4, 5, 8 especially); Objective 1 needs to be updated per Dr. Aaron
- Overall, they give an excellent sense about the emphasis of the course
- Having about 18 is an appropriate number for a major required course
- Make sure that several (11, 12, 13, 14, 16) are actually assessed during PE session in some way that can be documented (even if not graded per se) - YES
- Identify how two (15, 17) are actually assessed

• Objective changes proposed in “Recommendations” at end
Format of Course & Session Objectives

- Course objectives are provided in the syllabus and on Canvas site.
- Course objectives are written in the correct format.
- Session objectives are provided in the course materials (early in each ppt file).
- Session objectives are written in the correct format [reviewed by Denise]
Issues of Redundancy

• Are there major issues of redundancy with other courses?
• Derm course includes:
  – Viral skin infections and viral exanthem (e.g. warts, molluscum contagiosum, erythema infectiosum, hand-foot-mouth disease, HSV, VZV, eczema herpeticum)
  – Bacterial skin infections (e.g. impetigo, folliculitis, cellulitis, erysipelas, necrotizing fasciitis)
  – Infestations (e.g. scabies, lice)
  – Acne and Rosacea
• The SBM ID course includes a major module titled “Skin and soft tissue infections”, with potential for overlap, with focus on:
  – Strep skin infections (impetigo, erysipelas)
  – Boils etc due to Staph aureus
  – Cat bites and human bites
  – Water-carried skin infections (fresh, salt)
  – Miscl: Anthrax, sporotrichosis
Issues of Redundancy

- Current MEC subcommittee concluded that the material was complementary not unintentionally repetitive, ie, derm focusing on identification and physical findings of skin infections and ID focusing on treatment, resistance, etc.
Exploration of [VIG topic]

- This past year, on the third day of the course, there was a one hour “Hearts and Minds” session run by Dr. O’Donnell and Dr. McDaniel, that dealt with “psychology of illness” issues in patients with chronic skin disease.
- This session is being re-worked because last year (2016), patient was unable to attend (lived too far away, etc.)
- Session presents a live dermatology patient and care team (doctor, nurse, etc.) and explores the patient’s experience of disease and health care. Moderated by Drs. O’Donnell and McDaniel.
Art of Clinical Observation

• Students are offered opportunities to participate in elective and non-graded “Art of Clinical Observation” experience at Hood Museum moderated by museum education consultant, Vivian Ladd

• Based on the work of Dr. Irwin Braverman at Yale
  – Carefully observing art enhances ability to observe and diagnose patients.
Art of Clinical Observation
Course Learning Opportunities

- Total scheduled hours: 24.5 (per course director)
- Standard Lecture format: 17.5 h (72%)
- E-lecture module (Intro to course by CD): 0.5 h (2%)
- Interactive lectures, review with ARS: 3.5 h (14%)
- Conferences: 0 h (0%)
- Laboratory: 0 h (0%)
- Psychology of Illness session with patient: 1 h (4%)
- Physical Diagnosis Clinic with patients: 2 h (8%)
Course Learning Opportunities

• Course relies heavily on standard lecture (72%)
  – Derm is very visual and a cornerstone of learning to
diagnose derm conditions is repetitive visualization of
different presentations of the same condition. The key is
to draw attention to salient details that help cement the
diagnosis and differentiate it from similar conditions

• Conferences were tried 2 years ago and were not
  well received.

• Single PE session is very well done and well received
  by students
Assessment

• Written Quizzes for grading: none (but many self-assessment quizzes offered, one for each lecture)
• Final Exam: counted for 100% of final score
• Other: Each student was required to attend and participate in the physical diagnosis session (without formal assessment)

• Skills assessed on the final exam (all MCQ):
  – Identify image/disease only: 31
  – Identify image and integrate with short case: 30
  – Application of knowledge to new case/vignette: 18
  – Recall information: 19
  – Other: 9
Assessment

• Final exam had 92 items
• Per course director, division as follows:
  • 43 items included clinical photos:
    – 8 had students simply identify the image or disease
    – 35 had students identify the image and integrate with case (vignette)
  • 49 items did not include photos:
    – 23 items tested simple recall of information
    – 5 were matching items
    – 21 tested application of knowledge through clinical vignette
Assessment for Course Objectives

• Final exam questions seem to rely somewhat on “simple” recognition of an image, but almost always a new image not shown during class
• Final exam questions seem to rely somewhat on recall of information only
• Need to increase number of questions in vignette form, that rely on accessing knowledge and then applying that knowledge to a new clinical situation
• More testing about disease pathophysiology (and implications for treatment) would be helpful
# Measures of Quality – Step I

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Mean last 3 year (2013-15)</th>
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<td>Pass rate</td>
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<td>Mean score</td>
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<td>232</td>
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**SYSTEM-BASED TOPICS** (similar to SBM)

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<thead>
<tr>
<th>Topic</th>
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<th>2015</th>
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<td>na</td>
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<td>0.22</td>
<td>-0.07</td>
<td>0.18</td>
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<td>Renal/urinary system</td>
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<td>Multisystem processes &amp; disorders (2014)</td>
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<td>-0.15</td>
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*mean 0.19 0.08 0.18*

*values reported for core disciplines are SD above the US/Can mean for Geisel mean scores*
## Measures of Quality – Course Evaluation

<table>
<thead>
<tr>
<th>Year 2 Courses 2015-16</th>
<th>The clarity of the learning objectives for the overall course.</th>
<th>Congruence of quiz (if applicable) and exam questions to the learning objectives.</th>
<th>Your assessment of the effectiveness of the organization of the course.</th>
<th>How well the course provided me with a useful and relevant introduction to this field or discipline.</th>
<th>The overall quality of this course.</th>
<th>Mean Lecturer/Large Group Instruction Score</th>
<th>Mean Small Group Leader Score</th>
<th>This year overall mean score</th>
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<tbody>
<tr>
<td>Term 1-Pharm Intro.</td>
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<td>3.96</td>
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<td><strong>2015/16 MEAN</strong></td>
<td><strong>3.83</strong></td>
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</table>

*Scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]*
# Measures of Quality – Course Evaluation

*scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]*

<table>
<thead>
<tr>
<th>Measure</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Overall quality of course</td>
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<tr>
<td>Clarity of learning objectives</td>
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<tr>
<td>How well the course introduced me to this discipline</td>
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<td>Congruence of assessment questions to material emphasized in course</td>
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<tr>
<td>Mean lecturer score</td>
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<tr>
<td>Overall mean score</td>
<td>4.13</td>
<td>3.98</td>
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</tbody>
</table>
Measures of Quality – Student Comments

• Course was well organized
  – “Good organization and great resources for study available on Canvas.”
  – “I thought course was really well run.”

• Dermatology clinic was terrific
  – “The clinic session at the end was fantastic. It was so well organized and it was very helpful to see the patients. Even the non-patient stations were very helpful for review. Very impressive to be able to do this with 90 students!”

• Practice questions and quizzes were helpful
  – “I appreciated that you provided so many practice questions that generally represented the material on the final exam.”
Measures of Quality – Student Comments

Suggestions for Improvement:

• “There was little emphasis on pathology or other boards testable information.”
• “Some of the lectures were confusing because the pathophysiology was sometimes not discussed.”
• “Sometimes it felt that there wasn’t much of a dialogue between different lecturers, or between lecturers and the course director.”
• “The physiology behind certain dermatologic diseases was not covered.”
Recommendations for 2017

• Course Objectives
  – Reword Objective #1
    • Current: “Learn and apply useful knowledge of the most current basic science that help to explain normal skin and adnexal, hair, nails and mucous membrane structure and function, health, and the pathophysiology of disease, such that this knowledge can be used to improve patient care.”
    • Split this objective into two more focused objectives, as below
    • Proposed: “Explain structure of normal skin and adnexal structures.”
    • Proposed: “Recognize and identify common physical findings, and describe pathophysiology (when known), of common dermatological disorders”
Recommendations

– Delete Objectives #9, #10, #17. Not addressed or tested.
– Simplify Objectives #4 & #15.

• Current:
  – 4: “Explain the approach to the diagnosis and evaluation of common and important cutaneous diseases such as eczema and contact dermatitis, papulosquamous disorders, major bullous disorders, follicular disorders such as acne, diseases affecting the hair and nails, cutaneous infections, connective tissue diseases and skin cancer. “
  – 15: “Generate an appropriate differential diagnosis, based on logical clinical assessment and guided by appropriate statistical reasoning. “

• Proposed: “Generate a differential diagnosis for skin rashes based on distribution and morphology of rash.”
• Proposed: “Recognize common benign and malignant skin growths”
Recommendations

– Reword Objective #5
  • Current: “List and explain the typical findings, presentation, clinical course, natural history and complications of common and important cutaneous disorders as in number 4. “
  • Proposed: “Explain the typical presentation, clinical course, and natural history of common cutaneous disorders “

– Add new Objective re: treatment
  • “List first line treatments for common dermatologic rashes and growths”

– Delete Objective #8 – Redundant with #1
  • Current: “Describe the pathophysiology and major pathologic features as well as the epidemiology of common and important cutaneous diseases including neoplasms, cutaneous manifestations of infection, cutaneous manifestations of connective tissue disease, disorders of the hair and nails, cutaneous manifestations of systemic disease. “
Action Plan

- Ensure 2 lecturers that do not currently have session objectives in materials add them
- In many skin diseases pathophysiology is not well understood. Where pathophysiology of skin disease is known, such as bullous diseases, add vignette-style exam questions.
**Action Plan**

- Review exam looking for opportunities to replace questions of identification or simple recall with vignette-style questions.
  - Current exam content:
    - For questions with photos:
      - Identify image/disease only: 8
      - Identify image and integrate with case: 35
    - For written questions without photos
      - Recall information: 23
      - Matching: 5
      - Application of knowledge to new case/vignette: 21