

Module Review

Renal Module, as of Summer 2012

Course Director: Mark Bevensee, Ph.D.
Co-director: Zipporah Krishnasami, M.D.
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Course Date: April 23 – May 25, 2012

Review Date: May 10, 2012

Present:	Laura Cotlin	Lead Reviewer
	Peter Smith	Ad hoc Reviewer
	Mark Bevensee	Course Director
	Zipporah Krishnasami	Course Co-director
	James Jackson	UME Administration

****Absent:** Vineeta Kumar Course Co-director
Patrick McCabe Student Representative
****discussed materials with each individually**

Review Process:

The module review process consists of three parts; the self-study conducted by the course directors with the aid of UME, the review, i.e., the face-to-face meeting between representatives of the pre-clinical sub-committee of the MEC, the student representatives and the course directors (the review committee) and the final part, the report to the Pre-clinical sub-committee and thence to the MEC. The review committee received the self-study material approximately 7 weeks in advance of the meeting. Below is a summary of the face-to-face meeting and individual discussions, highlighting strengths and weaknesses of the course, and outlining areas for improvement. This is followed by the detailed report, which provides the rationale for the recommendations and overall evaluation.

Summary:

Overall the Renal Module is very well received by the students. The success of the module is in large part due to the efforts of the course directors and dedicated faculty. The module content has been streamlined and re-organized the past few years, and these changes have been favorable and greatly improve the flow of material. The introductory weeks of normal structure/function of the organ system prepared students very well for understanding the relevant diseases and clinical application. In addition, this is a five-week module, which

allows for plenty of time to cover the required material without overextending the students on a daily basis.

Strengths:

- The module directors are generally considered to be an asset and the commitment of the directors was particularly appreciated. Students felt that they were enthusiastic, approachable, and very responsive to students' needs and concerns.
- Students felt that there was successful integration of basic and clinical sciences. In particular, Drs. Bevenssee and Shafer lectures progressed clearly and logically, aiding in the understanding pathology later in the module.
- The majority of students (~80%) felt that the exams tested understanding of module content, which is a higher than most modules.
- Students noted that the course emphasized understanding and applying concepts rather than relying heavily on recall.
- The overall quality of faculty is rated as excellent or satisfactory.
- Review sessions and the small group sessions were thought to be very helpful for learning renal physiology. The small group sessions helped to put information in a clinical context and allowed time for detailed explanations and discussions.

Weaknesses:

- While the course objectives were submitted for this review, it is unclear where they are presented and if they are accessible to the students.
- Currently, approximately 75 % of the time is devoted to lecture, which is higher than is recommended for the organ system modules.
- On average, only 17% of exam questions are in NBME format, which is on the low side compared to other MS1 modules (range is 15% to 51%).
- Students feel that there are few planned opportunities to use outside resources, though also stating they may not be needed/necessary.
- While the exam review sessions were helpful, most desire more direct feedback and view the lack of such as a weakness. (Note: This is not

unique to the Renal module, but seen as a weakness in virtually every SOM module.)

- Students felt that the small group quality varied depending on preceptors, and that the sessions should review and reinforce material that has been taught, but not introduce new material and concepts. This idea correlates to the lower preceptor ratings in the module (compared to other MS1 modules).
- Students expressed concern of the use of ARS for attendance purposes only rather than as an aid to learning; ex. what time is it vs. a vignette based on material. (Again, this complaint/concern is not unique to the Renal module, but seen as a weakness in virtually every SOM module.)

Recommendations for Improvement:

- In addition to objectives stated in the ITOs, course-wide learning objectives should be presented in the course syllabus. Additionally, objectives should be re-written to replace “learn” with definable/actionable terms such as “discuss”, “demonstrate” and “analyze” according to Blooms’ Taxonomy.
- Attempt to increase the percentage of exam questions that are in NBME format.
- Attempt to decrease the lecture contact time so that is closer to the recommended 50% mark for organ system modules.
- It was noted that there is often a discrepancy in terminology and concepts between lecturers/clinicians (especially in types of kidney diseases) and an effort should be made to clear up inconsistencies and present clear definitions across lecturers.
- Most students liked that the physiology content was covered by two lecturers giving multiple hours of content, and suggested that perhaps the same could be done with some of the pathology and clinical content.
- If the small groups will continue to introduce new material, it would be good for the preceptors to specifically review that particular material before discussing cases.

Report of the Renal/Urinary System Review Committee Meeting, July 2012

All six of the self-study areas were reviewed in order.

Module Objectives and Content

- The ten module objectives address all six main SOM objectives and all ACGME Competencies.
- All objectives state what students are expected to learn, however most were not written in terms of what behaviors a student should exhibit, thus could not be classified by Bloom's Taxonomy. The one objective that was rated was determined to be above the lowest level on classification (Knowledge). While no objective explicitly addresses evidence-based medicine, EBM is covered in the module.
- Under the Step1 content area, the module covers all items under "Normal processes" and all items under "Abnormal processes" except congenital disorders affecting the renal/urinary system. Also covered were all items under "Principles of therapeutics" except drugs used to enhance renal perfusion, and all items under "Gender, ethnic, and behavioral considerations affecting disease treatment and prevention" except occupational risk factors. In addition, in the area "General Principles", the module covered items under "Gender, ethnic and behavioral considerations", "Multisystem processes" and "Microbial biology".
- Content was indicated for at least one content area under all five SOM Themes except Clinical Skills.

Methods of Instruction and Assessment

- All module objectives are covered by Lecture. In addition, four are covered by Small Group and three by Lab. All but three objectives are covered by at least two activity types.
- For the 2011 module, student contact hours were as follows:
 - 75.0% of time was spent in Lecture (down from 79.5% in 2010)
 - 6.9% of time was spent in lab (up from 5.1%)
 - 11.1% of time was spent in small group (down from 12.9%)
 - 6.9% of time was spent in review sessions (up from 2.4%)
- The number of contact hours per week, including ICM, exceeded 20 hours in only one of the five weeks in 2011 and 2010.
- Assessment of student performance during the module was as follows:
 - Knowledge Performance 80%

(30% midterm exam)
(40% final exam)
(5% anatomy quiz)
(5% UTI lab quiz)

- Small Group/Attendance 20%
(15% small group and lab)
(5% lecture attendance)

- Regarding NBME format, overall 17% are in the desired direction, with 12% of questions on the midterm and 21% of questions on the final being formatted appropriately. (For all modules, the mean combined percentage is 23% (range of 15% - 51%). The reliability coefficient ranged from 0.75 - .80 for both exams in 2011, which is in the moderate category (.70 – 0.89) in terms of reliability.

- Regarding assessment on Step 1 content area:
 - For “Normal processes”, all nine items were covered in module instruction and all were addressed on exams.
 - For “Abnormal processes, “Principles of therapeutics”, and “Gender, ethnic, and behavioral considerations affecting disease treatment and prevention”, in each area, the module covered all but one code, and tested on all items covered in the module.

- Students were evaluated in mandatory small group sessions using the Professional Form, with grading as follows:
 - 91.1% of students received a rating of “Acceptable”
 - 8.9% received a rating of “Commendation”

- Four of the eight preceptors rated all their students as Acceptable.
- Four of the eight preceptors gave a mix of Acceptable and Commendation ratings.

Student Outcomes

- 72% of the students attended at least 80% of the lectures (the required amount to the full 5% credit).

- The mean module raw score was 85.4% for 2011 and 87.7% for 2010.
 - Knowledge component mean is 83.9% in 2011 (compared to 86.7 in 2010).
 - Small Group/Attendance mean is 90.6% in 2011 (compared to 91.0 in 2010).

- Two students failed the module based on the knowledge component in 2010-11 compared to one in 2009-10.
- The Step 1 results are not yet available for students taking the exam in 2010-2011, but for previous years, the UAB results for the Renal/Urinary System are as follows:
 - in 2007-2008, the mean was 0.35 SD below national mean and was tied for the second highest UAB performance on the eight organ system scores.
 - in 2008-2009, the mean was 0.23 below the national mean and was the sixth best UAB performance on any of the eight organ system scores.
 - in 2009-2010, the mean was 0.28 below the national mean and was again, the sixth best UAB performance on any of the eight organ system scores

Student Evaluation of Module

- The overall quality of the module is rated as Outstanding or Good by 81% of students in 2010-11 and 79% in 2009-10.
- The overall quality of faculty is rated as Excellent or Satisfactory by 98% of students in 2010-11 and 96% in 2009-10.
- The percentage of students rating “Understanding concepts” as the most emphasized learning outcome was 44% in 2011, down from 47% in 2010.
- The percentage rating “Ability to apply facts/concepts to clinical issues” as the most emphasized learning outcome increased from 48% in 2009-10 to 51% in 2010-11.
- The percentage rating “Recall of facts/definitions” as most emphasized decreased from 18% in 2009-10 to 14% in 2010-11.
- All areas scored favorably (above 3.0 and percentages agreeing/strongly agreeing above 50%) with the exception of two items addressing ARS usage, “ARS made me pay more attention in class” and “ARS made me more likely to prepare for class”.
- The NGT evaluations were consistent with the overall student evaluations as described above in section discussing strengths and weaknesses.

Evaluation of Lecturers and Preceptors

Lecture ratings were based on a scale where:

- 2 = Occasionally fails to meet expectations
- 3 = Meets expectations
- 4 = Exceeds expectations
- 5 = Far exceeds expectations.

- The overall mean is 3.7 in 2011 and 3.6 in 2010 (very similar to ratings of faculty in other MS1 modules).
- The overall mean scores ranged from 3.1 to 4.4, and no lecturer has 50% or more of their raters giving at least one rating less than 3.

Preceptor ratings were based on a scale where:

- 7-9 = Excellent
- 4-6 = Satisfactory
- 1-3 = Needs improvement

- In both years, the mean preceptor ratings range from 6.4 to 6.7 (lower than the combined means for the other MS1 modules).
- The Overall Teaching Effectiveness means for Renal are 6.5 in 2011 and 6.6 in 2010 (compared to 7.6 and 7.4 for other MS1 modules).
- The Overall Teaching Effectiveness means range from 3.5 to 7.8 for 2011. One preceptor had a mean rating < 4% with >50% of the raters giving at least one rating less than 4. In 2010, the means range from 5.4 to 7.7.

Impact of Changes from Last Year

Over the past few years, the module has made improvements by adding/modifying the following activities:

- All students now take anatomy lab at the same time instead of breaking the class into two separate groups. This freed up time in the module; however there was less contact time between students and instructors.
- Students now attend histology lab and look at slides rather than just view a histology demonstration in the lecture hall.
- The “Diuretics” lecture was moved to the first half of the module, which improved the flow of material in relation to associated physiology.
- Two lecture hours of disorder of electrolytes were added, which aided the understanding of hypo/hyponatremia.

- A session entitled “Aging Kidney” was added to complement the geriatrics theme in the SOM curriculum.
- Extra time was given for “Acute Renal Failure” and review of glomerulonephropathies, both of which enhanced students’ understanding of this material.
- Lectures on HIV, nephrology care in developing countries, and obstructive urology were eliminated, primarily because the material either added only minimal pertinent information and/or the material was covered in other sessions.

Additionally, in anticipation of this report, the Renal Module for 2012 was adjusted to address some of the above recommendations for improvement, including:

- the addition of more workshop time and review sessions, thus decreasing the time devoted to lecture
- an increase in the number of NBME-style exam questions.
- individual meetings with students to review missed exam questions and provide direct feedback.
- the addition of lectures covering hereditary diseases and PKD.

All activities have been favorable changes and have enriched the module by more closely aligning clinical/disease considerations with basic science physiology.

Respectfully submitted,
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Lead Reviewer