Encouraging the development of student skills

UNMC College of Pharmacy Preceptor Retreat

Megan Keck, PharmD, BCPS
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Disclosure

- I have no financial relationship with pharmaceutical companies, biomedical device manufacturers or distributors, or others whose products or services may be considered related to the subject matter of my presentation.
Objectives

- Identify challenges in teaching/precepting students
- Describe skill sets that pharmacy students need to be effective practitioners
- Propose mechanisms to enhance the development of essential skills
“Tell me and I forget,
Teach me and I may remember,
Involve me and I learn”

Benjamin Franklin
Patient Population:

- Liver/Intestinal transplant recipients
- Intestinal rehabilitation program patients

Average census: 10-20 patients
1st day: Orientation

Typical Day:
- ~7:00-8:00- Work-up patients
- 10:00-10:30 Pre-rounds
- 10:30-12:00 Rounds
- 12:00-1:00 Lunch
- 1:00- ??? Follow-up from rounds
  Topic discussions
  Other
Other Expectations

- Admissions/discharges

- Attendance
  - Pharmacy Grand Rounds
  - Evaluation meeting

- Optional:
  - Observe transplant
Preceptor Roles

- Direct Instruction
- Modeling
- Coaching
- Facilitating
What challenges do you face precepting pharmacy students?
Developing Student Skills

- What are the most important skills that students need assistance in developing?
Developing Student Skills - My 1st thoughts

- Communication Skills
- Self-assessment
- Gathering drug information
- Designing patient care plans
Valued Characteristics of New Pharmacy Graduates

- Communication
- Adaptable
- Professional
- Knowledgeable
- Critical Thinking
- Problem-Solver
- Efficient

Communication

- Able to convey information in a clear, confident and succinct manner to patients, caregivers and other health care providers

# Communication Skills

“See one, Do one, Teach one”

<table>
<thead>
<tr>
<th>Patient Care Experiences</th>
<th>Verbal</th>
<th>Admission Medication Reconciliation</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Discharge Counseling</td>
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<tr>
<td>Written</td>
<td>MedAction plans</td>
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<table>
<thead>
<tr>
<th>Healthcare Professionals</th>
<th>Verbal</th>
<th>Multidisciplinary Rounds</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>---Teaching rounds</td>
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<tr>
<td></td>
<td></td>
<td>---Medication recommendations</td>
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<td></td>
<td></td>
<td>---Immunosuppression</td>
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<tr>
<td>Written</td>
<td></td>
<td>Journal Club Presentations</td>
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<table>
<thead>
<tr>
<th>Written</th>
<th>Admission Medication Reconciliation Notes</th>
</tr>
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<tr>
<td></td>
<td>Pharmacokinetic consults</td>
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“It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change”

*Charles Darwin*
Patient Needs

Census
Admissions/ Discharges
Drug information questions
Therapeutic Drug Monitoring

Preceptor’s Schedule

Patient and Topic Discussions

Student’s Schedule
Traits of professionalism essential to pharmacists

• Responsibility
  • Share the work
• Commitment to excellence
  • Hold them accountable
• Respect for others
• Honesty and integrity
• Care and compassion
  • Be a role model

Provide accurate pharmacy-related information without or with minimal need to refer to a computer or text reference.

Didactic Coursework + Patient Care Experiences = Knowledge

Pediatric Liver Transplant Rotation

- Questions, questions, questions

- Resources
  - Guidelines: AST, AASLD, KDIGO, ISHLT, IDSA, CHEST
  - Books: Sanford Guide, Natural Medicines
  - On-line references: Antimicrobial Stewardship website, Clinical Pharmacology, Lexicomp, Up-To-Date

- Self-assessment
Critical Thinking

- The use of cognitive skills or strategies that increase the probability of a desirable outcome
- Purposeful, reasoned and goal-directed
- Solves problems, formulates inferences, calculates likelihoods and makes decisions

Halpern. *New Directions for Teaching and Learning*, 1999
Critical Thinking Skill: Interpretation

- Construct a way to organize patient information
  - Problem-based
  - System-based

- Understand rationale for patient care plan

- Identify drug therapy problems and make recommendations

Critical Thinking Skill: Analysis

- Identify similarities and differences between two potential drug therapies
  - Immunosuppression
  - Antibiotics
- Cite the support for recommendations from guidelines

Critical Thinking Skill: Evaluation

- Determine the credibility of a piece of drug literature
  - Journal club presentation

Critical Thinking Skill: Inference

- Identify potential adverse effects of recommended drug therapy
  - Possible/probable

Critical Thinking Skill: Explanation

- State the results of a drug study
  - Journal Club presentation

- Describe the rationale behind drug therapy plan
  - Report to pediatric pharmacists

Reassess drug therapy recommendations

- Dosing
- Kinetics
- Patient care plan

The process of designing, evaluating and implementing a strategy to answer an open-ended question or achieve a desired goal

## Allergies: No Known Drug Allergies (NKDA)

<table>
<thead>
<tr>
<th>Take These Medications</th>
<th>At These Times</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tacrolimus</strong></td>
<td>9am 9pm</td>
<td>Prevents rejection (Prograf, FK)</td>
</tr>
<tr>
<td>GENERIC 0.5 mg Capsule(s)</td>
<td>2 Capsule(s)</td>
<td></td>
</tr>
<tr>
<td>By mouth</td>
<td>2 Capsule(s)</td>
<td></td>
</tr>
<tr>
<td><strong>Prednisone</strong></td>
<td></td>
<td>Prevents rejection***On July 30th, decrease to 1 tablet (2.5 mg) daily</td>
</tr>
<tr>
<td>GENERIC 2.5 mg Tablet(s)</td>
<td>2 Tablet(s)</td>
<td></td>
</tr>
<tr>
<td>By mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Valcyte®</strong></td>
<td>3 mL(s)</td>
<td>Prevents viral infections<em><strong>For 3 months after transplant</strong></em></td>
</tr>
<tr>
<td>(Valganciclovir Hydrochloride)</td>
<td>(150mg)</td>
<td></td>
</tr>
<tr>
<td>50 mg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sulfamethoxazole; Trimethoprim</strong></td>
<td>5 mL(s) 5 mL(s)</td>
<td>Prevents bacterial infections<em><strong>On Monday and Tuesdays only</strong></em> For 1 year after transplant (Bactrim)</td>
</tr>
<tr>
<td>200mg/40mg per 5mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amlodipine Besylate</strong></td>
<td>1</td>
<td>Controls blood pressure (Biacar)</td>
</tr>
<tr>
<td>GENERIC 2.5 mg Tablet(s)</td>
<td>1</td>
<td></td>
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Accomplishes a task quickly and correctly without compromising quality

Teach them how to perform and document clinical pharmacists patient-care activities

Prescription Verification
Admission/Discharge Process

- Explain rationale for pharmacist involvement and importance of documentation
  - Patient interviews/Medication Histories
  - Discharge Teaching
Drug Information Questions

Is it OK for our patients to use melatonin for sleep?

Dr. H called and wants to start RJ on Accutane?

Said it may have protective effect on liver? Any concerns?
1) I have a triple-lumen temp line—how can I run my drips?
2) How fast should the nurse run the ciprofloxacin?
3) You receive an order for KCl 1 mEq/kg IV X 1—How do you prepare it and how fast can the nurse run it (dilution and rate)?
Example - Vancomycin

“Vancomycin 1 gm IV Q12H”

Evaluate order for indication and appropriateness***

- 61 year old female medicine patient
- Suspected MRSA pneumonia
- Height: 164 cm
- Weight: 64 kg
- SCr: 1.2

Step 1: Determine target peak and trough

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Desired Peak</th>
<th>Desired Trough</th>
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<tbody>
<tr>
<td>Vancomycin Therapeutic Levels</td>
<td>30-40</td>
<td>10-20</td>
</tr>
<tr>
<td>Deep-seated/serious infection</td>
<td></td>
<td>15-20</td>
</tr>
</tbody>
</table>

Consider 25 mg/kg loading dose for suspected MRSA pneumonia***
Feedback

- On-going process
- Conveys information
- Focuses on what was done and consequences of actions
- Presents nonjudgmental information to build skills/behaviors

Wilkinson ST, et al. *Hospital Pharmacy*, 2013
Strategies/Factors that affect Quality Feedback

- Environmental setting
- Timing
- Individualization
- Content
- Specificity
- Preparation

Wilkinson ST, et al. *Hospital Pharmacy*, 2013
Evaluation

- Confers judgment
- Incorporate feedback from rotation

Rotation Midpoint
Final
  1) Ask for self-assessment
  2) Provide specific examples to explain my assessment
  3) Help develop self-improvement plan

Wilkinson ST, et al. *Hospital Pharmacy*, 2013
Conclusions

- All students are different
- Preceptors must recognize skills that pharmacy students need to be effective practitioners
- Different styles and techniques may be needed to foster the development of student skills
References


References


