Supervising Residents at Different Stages of the Learning Cycle

Why is this topic important?

The ACGME Common Program Requirements VI.D.3. (Levels of Supervision) state:

To ensure oversight of resident supervision and graded authority and responsibility, the program must use the following classification of supervision:

1. Direct Supervision – the supervising physician is physically present with the resident and patient.

2. Indirect Supervision with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

3. Indirect Supervision with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

4. Oversight – The supervising physician is available to provide review of procedures/ encounters with feedback provided after care is delivered.

While the ACGME has told us what the levels of supervision ARE, they have not told us how to identify what “level” of supervision a learner NEEDS.

Furthermore, CPR VI.D.4. adds: The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident must be assigned by the program director and faculty members.

In addition, VI.D.4.a) states: The program director must evaluate each resident’s abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria and VI.D.4.b) adds: Faculty members functioning as supervising physicians should delegate portions of care to residents, based on the needs of the patient and the skills of the residents.

Do you have a better idea NOW how to identify what level of supervision a learner needs? Do you notice what’s missing from the Common Program Requirements with respect to Supervision?

There are ZERO references to PGY year!
The goal of this document is to help Program Directors and Attending Faculty conceptualize and then operationalize what level of supervision a learner needs by discussing some models of learning and development that have been in the literature for many years:

- Situational Leadership Model
- Stages of Learning Model
- RIME Model
- Dreyfus Model

**Situational Leadership**

This model was first described by Paul Hersey in the 1980’s and later Ken Blanchard in the 1990’s. It describes four levels of learners:

- **Enthusiastic beginner** = motivated, enthusiastic and excited about the opportunity to do something new. This individual is already motivated, requiring only limited “support” from his or her supervisor. What the individual needs is information, direction, re-direction and feedback.

- **Disillusioned learner** = “the honeymoon is over.” The initial excitement has worn off, and some aspects of learning have proved more difficult than originally anticipated. At this stage, learners need performance feedback that is sincere, specific and timely with acknowledgment of progress toward the desired goal.

- **Reluctant learner/Cautious contributor** = completed skill successfully, but haven’t had enough time to gain confidence in their abilities. Supervisors need to encourage learners to repeat their performance while still being available to observe.

- **Expert/Self-reliant achiever** = have demonstrated competence and commitment and have essentially become self-managed.

The authors of this model graphically represent the learning cycle in this matrix:
Of note are the two axes: “Instruction & Feedback” and “Support.” All learners begin as “Avid Beginners.” And ALL learners move through the four stages. Learners do not skip stages. However, learners progress through the stages at different speeds. So, the “Avid Beginner” needs the highest level of Instruction & Feedback with relatively low levels of support. However, when the learner moves to the “Disillusioned Beginner” stage, they need both high levels of Support and Instruction & Feedback.

If *supervision* can be defined as Instruction & Feedback AND Support, then perhaps we can use models like the one above to describe what *supervision* should look like for each stage of learning.

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\text{Supervision} = \text{Instruction & Feedback} + \text{Support}
\]

**Stages of Learning/Competence**

The second model that might prove useful is the Stages of Learning model introduced by Noel Burch in the 1970’s. It describes four stages of learning or competence:

1. Unconscious incompetence
2. Conscious incompetence
3. Conscious competence
4. Unconscious competence
Unconscious incompetence = the individual does not understand or know how to do something and does not necessarily recognize the deficit. They may deny the usefulness of the skill. They must recognize their own incompetence and the value of the new skill before moving on to the next stage. The length of time an individual spends in this stage depends on the strength of the stimulus to learn.

Conscious incompetence = though the individual does not understand or know how to do something, he or she now recognizes the deficit as well as the value of a new skill in addressing the deficit. The making of mistakes can be integral to the learning process at this stage.

Unconscious competence = the individual has had so much practice with a skill that it has become “second nature” and can be performed while executing another task. The individual may be able to teach it to others, depending upon how and when it was learned.

These stages can be superimposed on the previous model:

RIME Framework for Learner Progress

The third model is credited to Dr. Lou Pangaro. In his 1999 article, he describes a four stage schema for describing learners:

R=Reporter
I=Interpreter
M=manager  
E=educator  

Reporter = can identify all or most of the information and relate it well; does not integrate it with basic knowledge to form a diagnosis or interpretation of the problem.

Interpreter = identifies all or most of the pertinent information and can form a cohesive, integrated vision of the patient and their problem; does not identify the diagnostic or therapeutic steps or only has rudimentary formulations of this.

Manager = identifies the key information and forms a cohesive vision of the patient; takes the next step and identifies the important diagnostic and therapeutic plans and suggests them to the team.

Educator = identifies the key information, forms a cohesive vision and plan for the patient; takes the next step in identifying, through reading, new or unusual diagnostic or therapeutic plans and shares them with the team.

Again, this model fits perfectly on top of the two previously described models:

Stages of Skill Acquisition

The model of skill acquisition and stages of learning favored by the ACGME is the Dreyfus and Dreyfus model. It describes five stages of learning:

1. Novice  
2. Advanced Beginner
3. Competent
4. Proficient
5. Expert

**Novice** = rule driven. Uses analytic reasoning and rules to link cause and effect. Has little ability to filter or prioritize information, so synthesis is difficult at best and the big picture is elusive.*

**Advanced beginner** = able to sort through rules and information to decide what is relevant on the basis of past experience. Uses both analytic reasoning and pattern recognition to solve problems. Is able to abstract from concrete and specific information to more general aspects of a problem.

**Competent** = emotional buy-in allows the learner to feel an appropriate level of responsibility. More expansive experience tips the balance in clinical reasoning from methodical and analytic to more readily identifiable pattern recognition of common clinical problem presentations. Sees the big picture. Complex or uncommon problems still require reliance on analytic reasoning.

**Proficient** = breadth of past experience allows one to rely on pattern recognition of illness presentation such that clinical problem solving seems intuitive. Still needs to fall back to methodical and analytic reasoning for managing problems because exhaustive number of permutations and responses to management have provided less experience in this regard than in illness recognition. Is comfortable with evolving situations; able to extrapolate from a known situation to an unknown situation (capable). Can live with ambiguity.

**Expert** = thought, feeling, and action align into intuitive problem recognition and intuitive situational responses and management. Is open to notice the unexpected. Is clever. Is perceptive in discriminating features that do not fit a recognizable pattern.

Once again, this model can be overlaid on the previously described models:
Now, let’s revisit the ACGME levels of supervision. Could these also fit into the schema?

Can we reach consensus about what a learner should look like in each quadrant so that we can determine what level of supervision a learner needs and how to best supervise them?

We’ve attached an article that you might find helpful in using this information to attempt to do just that! And, as always, the GME Team is available to shepherd your program through such an activity.

**Next Month: The Underperforming Resident**

**References**


You can’t start a central line? Supervising residents at different stages of the learning cycle

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You are an attending physician in the medical intensive care unit and receive a call from the charge nurse. She tells you that the senior resident has been unable to place the central line that was discussed on rounds. You call the resident to get more information. The resident tells you that he has had multiple opportunities to place a central line with limited success. You are particularly stunned, not only because you assume that every postgraduate year 3 resident should be able to place a central line without direct supervision, but also because this resident has demonstrated outstanding knowledge of pulmonary physiology and ventilator management. With this realization, what are the implications for your program’s teaching and supervision paradigms?

The Accreditation Council for Graduate Medical Education (ACGME) Common Program Requirements place significant emphasis on supervision of residents and codify the levels of supervision, yet offer little guidance on identification of the level of supervision for any particular task or skill. Many program leaders have expressed frustration when attempting to construct a conceptual model for supervision in the context of progressive responsibility.

In this perspective, we review several models of learning and skill development: the Hersey-Blanchard Situational Leadership model, the Stages of Competence model, the RIME model, and the Dreyfus model. We demonstrate that these models provide a structured framework for conceptualizing supervision of residents at various stages in their development, which parallel the ACGME concept of progressive responsibility. Our aim is to provide readers with models to help guide the design of a supervision structure for faculty.

The Situational Leadership Model

The Situational Leadership model was described by Paul Hersey in the 1980s and by Ken Blanchard in the 1990s. The model presents 4 levels of learner development: avid beginner, disillusioned beginner, reluctant learner/cautious contributor, and expert/self-reliant achiever.

Avid beginners are described as motivated, enthusiastic, and excited about the opportunity to do something new. This individual is already motivated, requiring only limited “support” from his or her supervisor. With disillusioned beginners, the initial excitement has worn off, and some aspects of learning have proved more difficult than originally anticipated. At this stage, learners need performance feedback that is sincere, specific, and timely, with acknowledgment of progress toward the desired goal. Cautious contributors can successfully complete a task, but have not had sufficient time to gain confidence in their abilities. Supervisors need to encourage learners at this stage to repeat their performance, while still being available to observe demonstrations by others. Self-reliant achievers have demonstrated competence and commitment, and have essentially become self-managed.

According to this model, the resident in this scenario is a self-reliant achiever in ventilator management, but a disillusioned beginner in the line placement task.

The Stages of Competence Model

The Stages of Competence model was introduced by Noel Burch in the 1970s. Similar to the Situational Leadership model, learners in the Stages of Competence model fall into 1 of 4 stages: unconscious incompetence, conscious incompetence, conscious competence, or unconscious competence. Conceptually, the Stages of Competence and the Situational Leadership models are parallel.

The Stages of Competence model implies that all learners proceed in a sequential, somewhat predictable, fashion through the 4 stages. At the unconscious incompetence stage, the individual does not understand or know how to do something, and does not necessarily recognize the deficit. Conscious incompetence is when the learner does not understand or...
know how to do something, but now he or she recognizes the deficit. Conscious competence is when the individual understands or knows how to do something; however, demonstrating the knowledge or skill requires concentration. At the level of unconscious competence, the individual has had so much practice with the skill that it requires little thought and can be performed while executing other tasks such as teaching.

In this model, the resident is at the level of unconscious competence in ventilator management but is consciously incompetent in line placement.

**The RIME Model**

Many readers are familiar with Pangaro’s RIME model (FIGURE 1), which describes 4 levels of learners: reporter, interpreter, manager, and educator. Reporters can identify most clinical information but do not integrate it with their basic science knowledge to formulate a diagnosis. Interpreters can identify the information and articulate the problem. Managers can identify the problem and design a therapeutic plan. Finally, educators can perform all of the functions above, and identify and share novel approaches for accomplishing the task.

The resident here is an educator in ventilator management, but a reporter in performing line placements.

**The Dreyfus Model**

The Dreyfus model was first introduced as a 5-stage model of skill acquisition. The stages are as follows: novice, advanced beginner, competent, proficient, and expert. These stages are eloquently described in an article by Carraccio et al and excerpted below.

Novices use analytic reasoning and rules to link cause and effect, with little ability to filter or prioritize information. Synthesis is difficult, and the big picture is elusive. Advanced beginners use both analytic reasoning and pattern recognition to solve problems, and are able to abstract from concrete and specific information to more general aspects of a problem. At the level of competent, learners see the big picture, yet complex or uncommon problems still require reliance on analytic reasoning. Proficient learners still need to occasionally fall back to methodical and analytic reasoning for managing problems. Finally, experts are open to notice the unexpected and are perceptive in discriminating features that do not fit a recognizable pattern. The first 4 stages described in the Dreyfus model parallel the 4 stages of all the previously described models (FIGURE 1).

In this model, the resident is proficient in ventilator management, but an advanced beginner in line placement.

**Developing a Structured Model of Supervision**

The 4 models presented describe learners as they progress through stages of development, and to some degree, suggest the type of instruction, feedback, and support appropriate for each stage. We propose that supervision can be operationalized as instruction, feedback, and support. The synthesis of the models can help us identify the level of supervision necessary for each stage. In addition, the 4 models can define what supervision should look like at each level (FIGURE 1). For example, the
avid beginner/unconsciously incompetent/reporter/novice learner requires direct supervision with high levels of feedback and instruction. In contrast, the self-reliant/unconsciously competent/educator/proficient learner would only require oversight with minimal ongoing feedback and instruction. Accordingly, from a sampling of different skill acquisition models, we can describe what a learner should look like to determine what level of supervision is required. In addition, we can operationalize the characteristics of the supervision.

In our scenario, the resident has characteristics of a disillusioned beginner and a novice learner, suggesting a need for direct supervision and instruction in line placement. At the same time, his knowledge of ventilator management suggests he needs only oversight. Accordingly, learners need varying levels of supervision for different areas of competence, and identifying competencies based on postgraduate year level becomes less relevant.

The next step in this process (using the specialty-specific milestones as a foundation) would be for each specialty to reach a consensus about what a resident should look like in each quadrant of the composite model for skills and content areas in that specialty. Figure 2 illustrates an example using the skills from our scenario. A similar schema could be developed for each skill or milestone. This would give program directors the necessary tools to determine what level of supervision their learners need, and how best to supervise them, based on an analysis of each individual's learning and the skill or competency being taught. These frameworks create multiple research opportunities to further describe optimal supervision.

References

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