Begin by Using Illness Scripts

Educational Principle

For every complex problem, there is a solution that is simple, neat, and wrong.

- HL Mencken

The development of sophisticated problem solving skills involves not only an increase in the number of facts but a change in the way those facts are stored and used.

- Dr. George Bordage MD PhD

The idea that experts recognize features and patterns that are not noticed by novices is potentially important for improving instruction...

One dimension of acquiring greater competence appears to be the increased ability to segment the perceptual field (learning how to see). Research on expertise suggests the importance of providing students with learning experiences that specifically enhance their abilities to recognize meaningful patterns of information.

- How People Learn: Brain, Mind, Experience, and School

One of the primary differences between novice and expert physicians is the number of illness scripts experts have developed over the years. These patterns are similar to algorithms, but more individualized to the expert's experience and personal style. The more experienced the expert, the more shortcuts will be included in the individual's patterns because of automaticity. Watch a video of a simple illness script being developed here.

Newly graduated doctors have spent most of their time in medical school giving the correct answer to questions, they are very good at "right answers" but this skill can present problems in the clinical setting because this desire to be right frequently leads to premature closure of the differential. You can assist learners in a clinical setting to develop their own differential patterns by asking them to graph common illnesses as they progress through their training and by sharing your differential thinking with residents and interns. Illness scripts have the added advantage of forcing the student to think in terms of a broader differential without the power struggle of arguing about a whether a particular diagnosis is correct.

These graphs can be kept in a binder and added to as the learner increases their knowledge. The final graph will be useful for studying for final exams. Both text-based and visual representations are acceptable depending on the student's personal learning preference. One of the best online tools is Simple Minds because it is multi-platform (has an app version for phones etc.) and it has an index of all the scripts the student creates.

Read Intentionally Role Model Pattern Making Skills

Caution: Remember this is not your illness script; it is the student's. It will not contain all the knowledge in your brain, nor will it look like what you draw on the board. This is also a developmental tool which will improve over time and experience.
Mind Maps in Medicine is a great resource for examples of medical mind mapping.

Here is an example of a simple visual image that might be used by a student to remember basic information about diabetes. As the student increases their knowledge, they would add more information and the image will become more complex. This image is also an example of automaticity because the same image represents key phrases that an expert would use to recall complex knowledge.
For More Information:

How to make mindmaps video

A Conceptual Framework for the Use of Illness Narratives in Medical Education
The Efficacy of the 'mind map' study technique
Educational Strategies to Promote Clinical Diagnostic Reasoning
From Problem Lists to Illness Scripts
The Role of Illness Scripts in the Development of Medical Diagnostic Expertise: Results from an interview study
Higher education lectures: From passive to active learning via imagery?

Examples
Examples of Scripts from a medical resident
Mind Maps: Immunomodulators for allergic disorders
Mindmaps - Asthma

Online Mapping tools
SketchyMedical
Picmonic
FreeMind
MindMeister, Collaborative Mind Mapping
NovoMind

Technology Tools

- Archiving Tools
- Audience Response Tools
- BBLearn
- Illness Scripts and Mind Mapping
- One 45
- Podcasting
- PowerPoint
- Social Media (Blogs, Wikis, Twitter)
- Videos
- Videoconferencing

- Using the cloud to enhance clinical teaching
- Open Medical Education Practice a site for those interested in exploring how to develop as an open digital scholar and teacher in medical education.