

Attachment 2: What Can We Learn From Examining Expert Schemas?

The first thing you might notice when you view the diagram is that the experienced dermatologist transformed the strictly descriptive information into key features or terms that were subsets of the larger implied categories of historical and clinical findings (see table below). Notice that the key features are comparative rather than purely descriptive and that they usually represent the absence or presence of a feature or the degree to which a feature exemplifies the category. Because of the concise nature of the transformed descriptors, the experienced clinician can combine a series of observed key features into principles or “rules” that can be used across settings and cases.

Developing “informal rules” based on the translated terms is much more efficient than trying to utilize the descriptive language provided. The combined “transformed” key features become “search terms” in the experienced clinicians’ database of clinical and biomedical knowledge.

Description	Translation	Implied Category
The lesion had been present for 18 months	Persistent	Duration of symptom
Significant growth over the last four weeks	Progressive	Status of symptom
Lesion had never been tender	Painless	Pain/Sensation of symptom
Expert generated “rule” – When a lesion is persistent, painless and progressive, it is rarely infectious and usually neoplastic.		

By being exposed to the schema of experienced clinicians, residents can

1. Learn to modify the language they use to describe their observations
2. Learn which categories of history questions yield the most pertinent information
3. Learn to develop or recognize “rules” as they exist in the observation of phenomena.
4. Apply new “rules” to a diverse set of cases in order to refine “rules” and recognize exceptions