Let's trim those overgrown hedges

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If there's a bustle in your hedgerow, don't be alarmed now, It's just a spring clean for the May queen.

—*From* Stairway to Heaven, *Led Zeppelin*

We radiologists see a great many examinations daily with the potential for innumerable vague, confusing and even inexplicable findings. To wit: the 8mm-in-diameter appendix that otherwise looks normal in a patient with right lower quadrant abdominal pain, or the slight, anterior-superior endplate compression in an elderly patient with intermittent back pain that sometimes includes the abnormal-looking vertebra.

These situations are endless, everyday events. Indeed, I doubt that any other specialists deal with anywhere near the same level of diagnostic uncertainty in daily practice that we cope with in radiology. That said, often it is abundantly clear that such findings are pathologic. But are they clinically relevant? Is further work-up necessary?

In our efforts to answer these questions, some of us radiologists suffer more than others, based on our experience, based our level and intensity of training, and even based on our general self-confidence. And given the frequency of these situations, we have developed a commonly used defense we all know as "the hedge."

Let's be honest, we all hedge from time to time in our interpretation of imaging studies. Such as when the examination is markedly underexposed in those patients who seem to require the Large Hadron Collider for sufficient penetration. Or in those cases of nonspecific findings that could be seen in any number of diseases. Personally, the diffuse reticulo-nodular pattern chest radiograph or the patchy, "hazy" lung density generates many of the hedgerows in my own reports.

The fact is, many abnormal findings are suspicious in some way, but they just do not fit enough criteria to establish a clear diagnosis. The hedge allows us to report observations without having to come down hard on any focused diagnosis. Indeed, there are many legitimate reasons to embrace hedges: They help keep us from looking incompetent while offering a specific diagnosis in the face of high uncertainty; they enable us to honestly express the limitations or appropriateness of a study; they enable us to note the difficulty of interpretation; and, of course, they enable us to protect ourselves from potential medico-legal action. The hedge can

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lighten the fear and burden of malpractice claims when we radiologists cannot specify a diagnosis that may in fact be flat wrong. This, of course, puts the onus of making the diagnosis back onto the referring physicians.

Yet, while the hedge has its place in our profession, it can be severely abused; I see such abuse more and more often among our residents. While almost uniformly excellent in ability, considering their level of training, many residents memorize and frequently use pat phrases to hedge their opinions, diluting the value of their reports. Interestingly, they all seem to use the same, specific phrasing when hiding behind the hedge. A typical example goes something like this:

> *The apparent finding mentioned above could possibly be associated with an infectious or inflammatory process, or under certain clinical circumstances might be due to a neoplasm of questionable aggressiveness. Further evaluation may be of value based on clinical factors.*

Some trainees simply seem completely unable to use the word "is," as in, "There is a pulmonary contusion;" "there is a pneumothorax." Rather, like disabled patients with canes, they hobble along on statements like, "A probable pneumothorax is suggested in the right apex." Who suggested that pneumothorax? Are we talking 10% probability? 90% probability? Somewhere in between? Then there's the old, "No large or obvious pneumothorax is seen." If it were obvious, why would anyone pay us to find it?

An especially strange hedge I've also come across is for a trainee to find or create an imaging diagnosis for which the study is requested. This usually manifests itself in a simple misinterpretation of some normal structure or variant to accommodate the sought-after diagnosis. My personal favorite is the completely opaque, white left lung base, so common in the ICU population, being passed off as infiltrates, effusion, etc. One can project virtually anything onto a blank white board. We radiologists aim to please.

Perhaps I exaggerate, but not by much. I often wonder if our trainees get statements like these as part of their subspecialty training under the attending radiologists that they strive to emulate. Such reports do not engender much respect for us from frustrated ordering physicians and are a common source for the belittling of our specialty. Nobody expects definitive interpretations all the time, but the frequency at which this type of report appears and the lack of effort to offer some definitive diagnostic direction is an obvious problem.

(As a brief aside, I must acknowledge that some otherwise very expert radiologists often may not recognize when they *should be uncertain* and instead express more diagnostic confidence than appropriate given the specific case and circumstances. The door swings both ways.)

Fortunately, a lot of this stuff (technical term) extinguishes itself with training and experience, but much still hangs on as part of our routine hedge dependency. Some trainees will shake it off, while others with lower baseline self-confidence will not. But before we can expect—and help—our trainees to abandon those squishy, vague and weak interpretations, we masters should look deep inside and ask just how much we ourselves embrace the hedge.

In all likelihood we need to face the truth: The hedge needs some long-awaited trimming.