

New Tool for Presenting Risk in Obstetrics and Gynecology

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BACKGROUND: The Paling Perspective Scale, a means of communicating risk in various settings, has been applied to diverse fields such as nuclear power, blood banking, and ophthalmology.

TECHNIQUE: Statistics of risk for various events in obstetrics and gynecology were collected from the literature and directly applied to the risk scale.

EXPERIENCE: The graphic simplicity and versatility of this scale make it adaptable for communicating risks to people of different technical and educational backgrounds.

CONCLUSION: The Paling Perspective Scale might help obstetrician-gynecologists obtain informed consent for surgery, genetic counseling, and other topics. (*Obstet Gynecol* 2001;98:345-9. © 2001 by the American College of Obstetricians and Gynecologists.)

Effective communication is often the key determinant in successful doctor-patient relationships. Informed consent—and communicating risks—represents a complex interaction between doctor and patient. The physician can become frustrated when dealing with a relatively undereducated or medically inexperienced patient with whom effective communication of risks can be difficult. Hopper et al¹ recently found that most informed consent forms require a high school education to understand. The investigators concluded by stating that, with 72 million Americans marginally or functionally illiterate, “only 3–20% of adults can understand most consent forms.”¹

In recent years, a new tool in communication, the Paling Perspective Scale, has been introduced in medical literature.^{2–4} It allows a communicator to convey risks graphically and is designed to help place risks in perspectives that are more real and understandable to the viewer. For example, the risks of communicable disease transmission in blood banking have been illustrated exceptionally well using the scale.⁴

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METHOD

The Paling Perspective Scale is a logarithmic graph with a range of 10^0 to 10^{-12} that represents a prevalence or risk of one in one to one in 1 trillion.² The bottom of the graph includes a numerical scale of +6 to -6 that represents the relative likelihood of risks. It is often difficult for the general public to place a risk of one in 10,000 in perspective, so the bottom scale is intended to serve the same function as a Richter scale does for earthquakes. With the Richter scale, the general public might not know exactly what the numbers mean, but there is widespread understanding that a 7.5 is a more serious geologic event than a 4.0. The center of the graph is one in 1 million, which represents remote risk, the point at which someone would essentially dismiss a risk as inconsequential.

The use of one in 1 million as the center point is based on the concept of a “Home Base Zone” of risk. That zone, from 0 to +2, represents levels of risk of serious injury or death in our own homes. Those are risks to which we are exposed almost daily, yet which we would not alter our lives significantly to avoid (Figure 1).² That assessment of risk provides a rational point for zero. Also, one in 1 million represents the same point below which the Food and Drug Administration considers the risk from a food additive to be too small for regulatory concern.²

To apply the Paling Perspective Scale to obstetrics-gynecology, several topics commonly discussed with patients were chosen. The numbers for risks and complications related to those topics were gathered from various sources in obstetric and gynecologic literature. An attempt was made to select sources that were widely available and commonly used by practicing obstetrician-gynecologists. Many estimates of risk were derived from textbooks such as *Telinde's Operative Gynecology*, or *Obstetrics, Normal & Problem Pregnancies*. Other information came from widely available peer-reviewed journals in obstetrics-gynecology, or from general medical journals such as *Journal of the American Medical Association* and the *New England Journal of Medicine*. Statistics

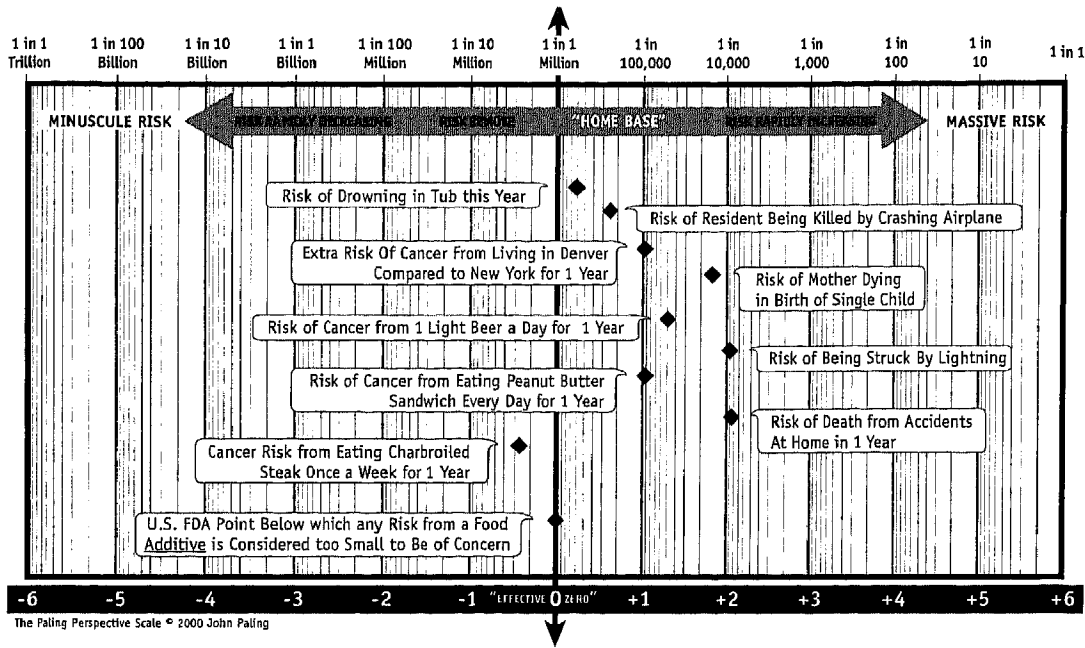


Figure 1. Risks faced at home.

Stallings. Presenting Risk. Obstet Gynecol 2001.

were then plotted on the scale as simple points or ranges after converting each to a 1/x format.

For risks in obstetrics-gynecology, all data points will

be more frequent than one in 1 million; otherwise, they would not be detected as risks. Therefore, the zero point remains valid for our purposes representing essentially

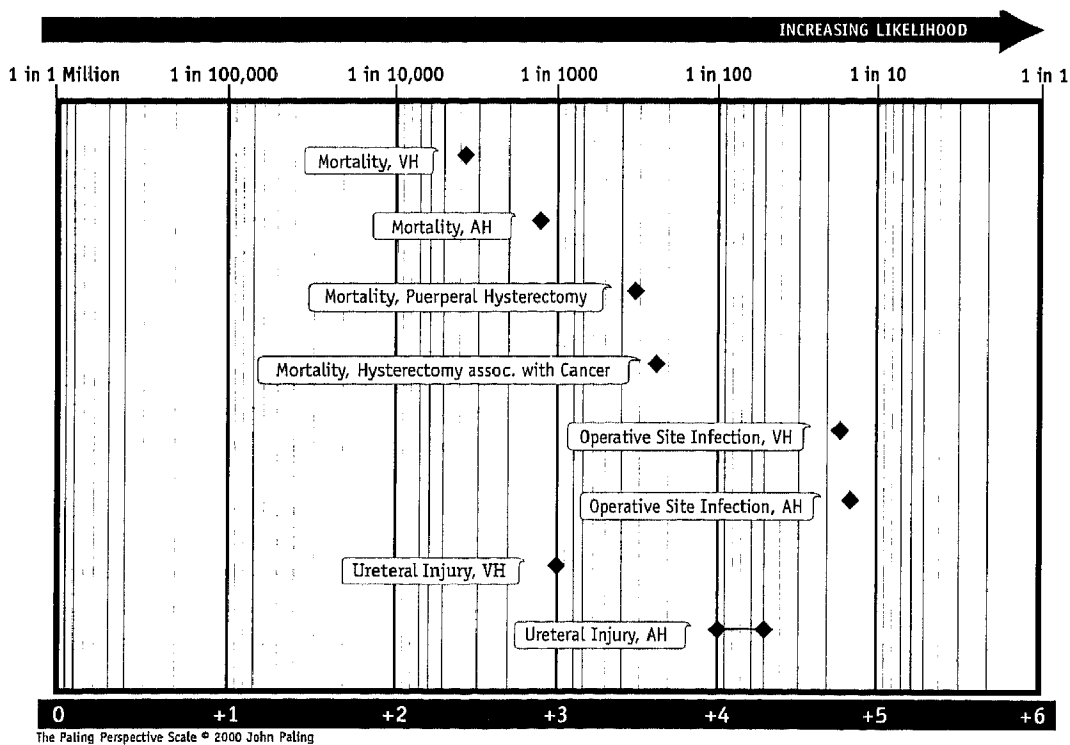


Figure 2. Morbidity and mortality in gynecologic surgery (VH = vaginal hysterectomy; AH = abdominal hysterectomy).

Stallings. Presenting Risk. Obstet Gynecol 2001.

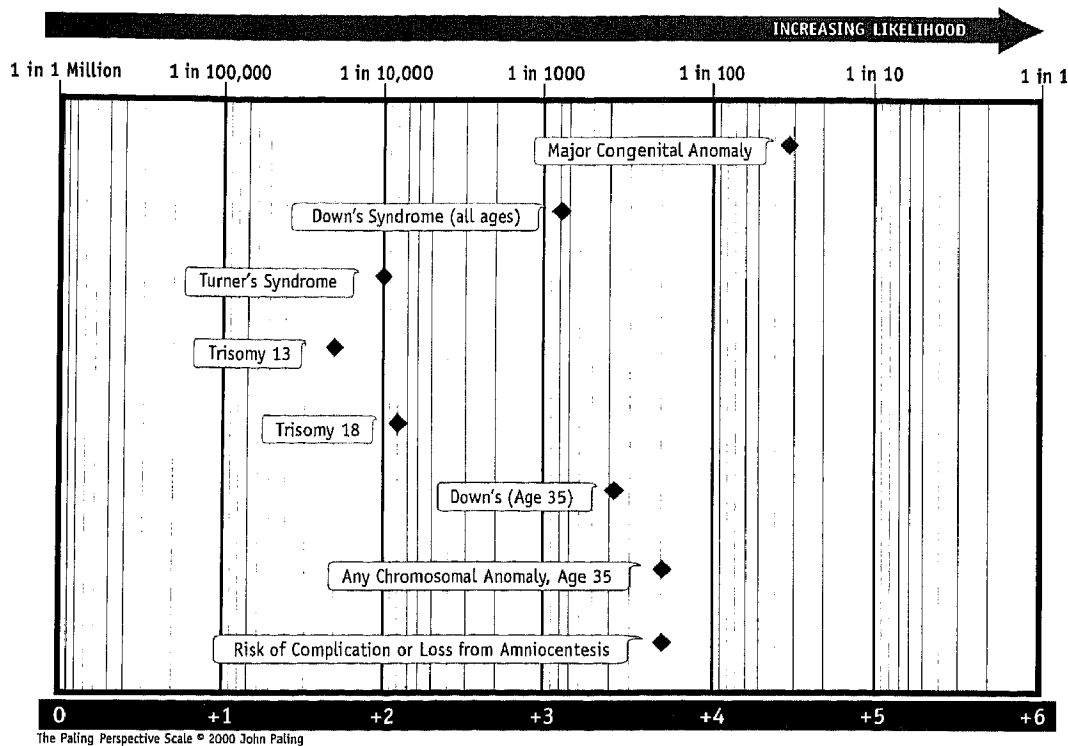


Figure 3. Risk of a live-born infant with a genetic diagnosis.

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no risk. The left half of the basic Paling Perspective Scale can then be eliminated to simplify the illustration.

Each figure can stand alone, or be placed next to Figure 1.² The information on Figure 1 can be used to establish a frame of reference for nonmedical audiences. That scale includes several risks that commonly receive attention in the news media or with which the average person can easily identify.

Figure 2 addresses complications related to hysterectomy.^{5,6} That figure may help patients and physicians keep in mind the seriousness of elective procedures. Especially illustrative are the risks for operative site infection.

Another area in which counseling of patients can be difficult is the field of genetic disorders (Figure 3).⁷ Graphically displaying the risk of any major congenital anomaly of 3% (one in 33) against the population prevalence of live-born infants with Down syndrome might help patients put their specific risk in perspective. Similarly, age-specific risks can be easily placed on the scale along with risks of complication from amniocentesis or chorionic villus sampling.

The Paling Perspective Scale can also be applied to broad topics, such as showing reproductive mortality (Figure 4).⁸⁻¹¹

COMMENT

An important distinction must be made between "data," which are basically facts, and "information," meaning facts placed in context. Too often, informed consents suffer from being "data," when they really should be given as "information." It has been stated that informed consent can be a double-edged sword.¹² Risks can be stated bluntly, such as "death may result from your surgery." Alternatively, an authoritative numerical list of complications can be given, such as "your risk of ureteral injury is one in a thousand," which ironically leads the patient to believe everything is under control and that they will not be part of the statistics. That second idea clearly can lead to disappointment and potential litigation.¹²

Our objective was to introduce an alternative form of presenting risks. This graphic display adapts to many situations and is easily applied in obstetrics and gynecology. We have provided several examples of completed graphs that can be used to provide ideas for other scales according to an individual physician's needs.

Future specific applications of the Paling Perspective Scale in obstetrics and gynecology include use as supplemental information in genetic counseling, or to illustrate

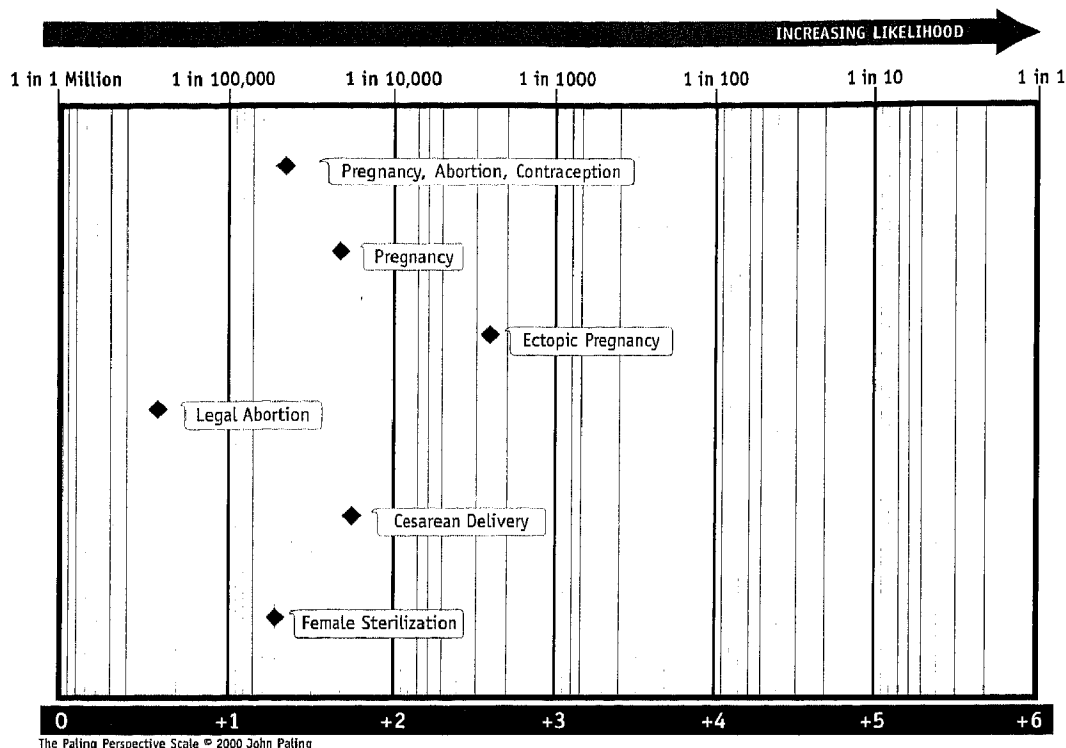


Figure 4. Reproductive mortality.

Stallings. *Presenting Risk. Obstet Gynecol* 2001.

concepts of risk for medical students on obstetrics-gynecology rotations.

One potential weakness of the scale is dependency on sources selected. For many topics in obstetric-gynecologic literature, multiple case series and trials might exist, all reporting conflicting statistics. The same problem is encountered no matter how one presents the information for informed consent. One cannot realistically present all such information to patients. Commonly, the physician condenses such controversy into a more manageable form with either a single number or range. Ranges can be plotted on the Paling Perspective Scale. Even when plotting numbers from multiple sources on the same graph, there is a tendency for the data to compress into risk zones (expressed by the -6 to +6 scale), which also show comparative information. For the examples used here, an effort was made to select widely available sources that are in congruence with the current trend toward evidence-based medicine.

Comparative data in controversial topics can be presented with an assessment of quality of the evidence included on the scale. The ranking scheme for quality of evidence used by the US Preventive Services Task Force (level I, II-1, II-2, etc) can be plotted next to the relevant data point on the Paling Perspective Scale.¹³ The gradations for strength of recommendation, A through E,

could be included directly on the scale with each risk point.¹³ The inclusion of those grading scales might add an additional perspective to the risks when presented to medical audiences.

Other concerns about the use of the Paling Perspective Scale for this purpose are more pragmatic. Will such risk communication be acceptable in litigation? To our knowledge, this issue has never been tested legally. It is certainly not our intent to substitute such risk scales for current informed consent paperwork drafted by a hospital's legal counsel. The Paling Perspective Scale in this setting should be seen as an adjunct to usual forms and methods.

In regard to copyright concerns, the Paling Perspective Scale is free for use, but its creator requests that acknowledgment of the origin of the scale be included in referring to the scale as the "Paling Perspective Scale (John Paling, 1992)."

As always, the ultimate goal is the delivery of the best possible medical care. Such care begins with effective communication. Application of the Paling Perspective Scale makes use of other facets of learning and a patient's previous experience to achieve more efficient communication. The underlying philosophy of this scale is that there really is no such thing as "zero risk." It is our hope that this new communication tool will help patients keep

their risks in perspective and contribute to fruitful patient-physician relationships in obstetrics and gynecology.

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Received July 24, 2000. Received in revised form October 31, 2000. Accepted November 22, 2000.