

What's Worth Worrying About in Life?

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IN RECENT YEARS, the public has become increasingly overwhelmed by the growing number of news reports announcing health hazards that seem to threaten our lives daily. We know all too well that the game of golf has been dragged into this environmental debate. Until now, citizens, legislators, and even the media had no simple way of sorting out the relative importance of new risks and putting them into perspective with other environmental and public health hazards. This article offers a brief summary of an effective communications tool that can help people make sense out of all their environmental worries.

Dr. John Paling and his son, Sean, have developed an objective, comparative scale that reflects the relative levels of risk from different hazards. The *Paling Perspective Scale*sm presents these relative risks in a manner than can be readily understood, yet is based on sound risk assessment practices. If someone has done a risk assessment calculation and claims to have estimates of the

UP TO YOUR ARMPITS IN ALLIGATORS?

How to sort out what risks are worth worrying about!

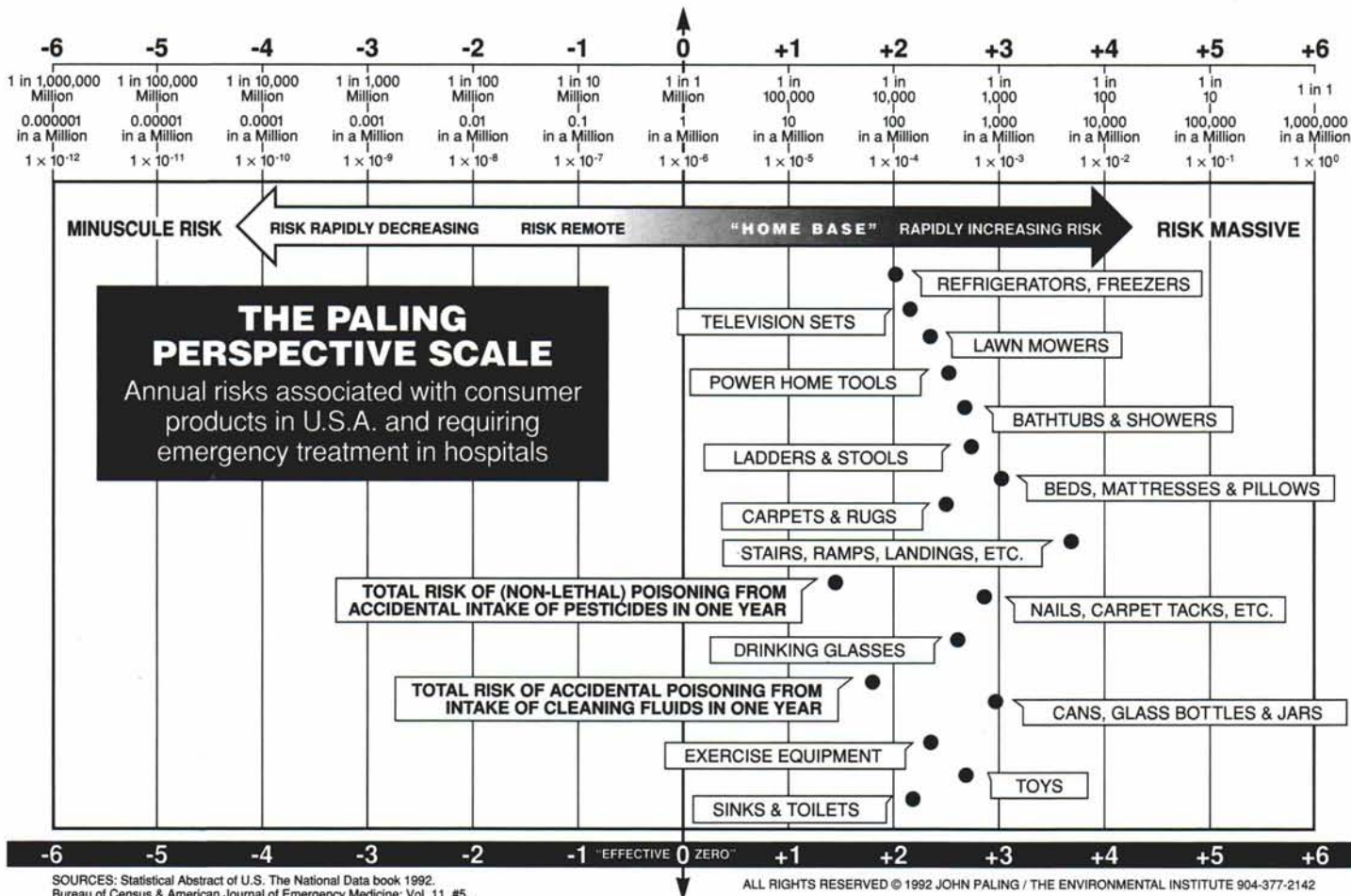


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level of risk for a particular hazard under certain circumstances, then this scale can easily show how it stacks up to other risks we face each day. It answers the public's wish to cut through all the technical stuff and get a simple answer to the question, "What's the bottom line?"

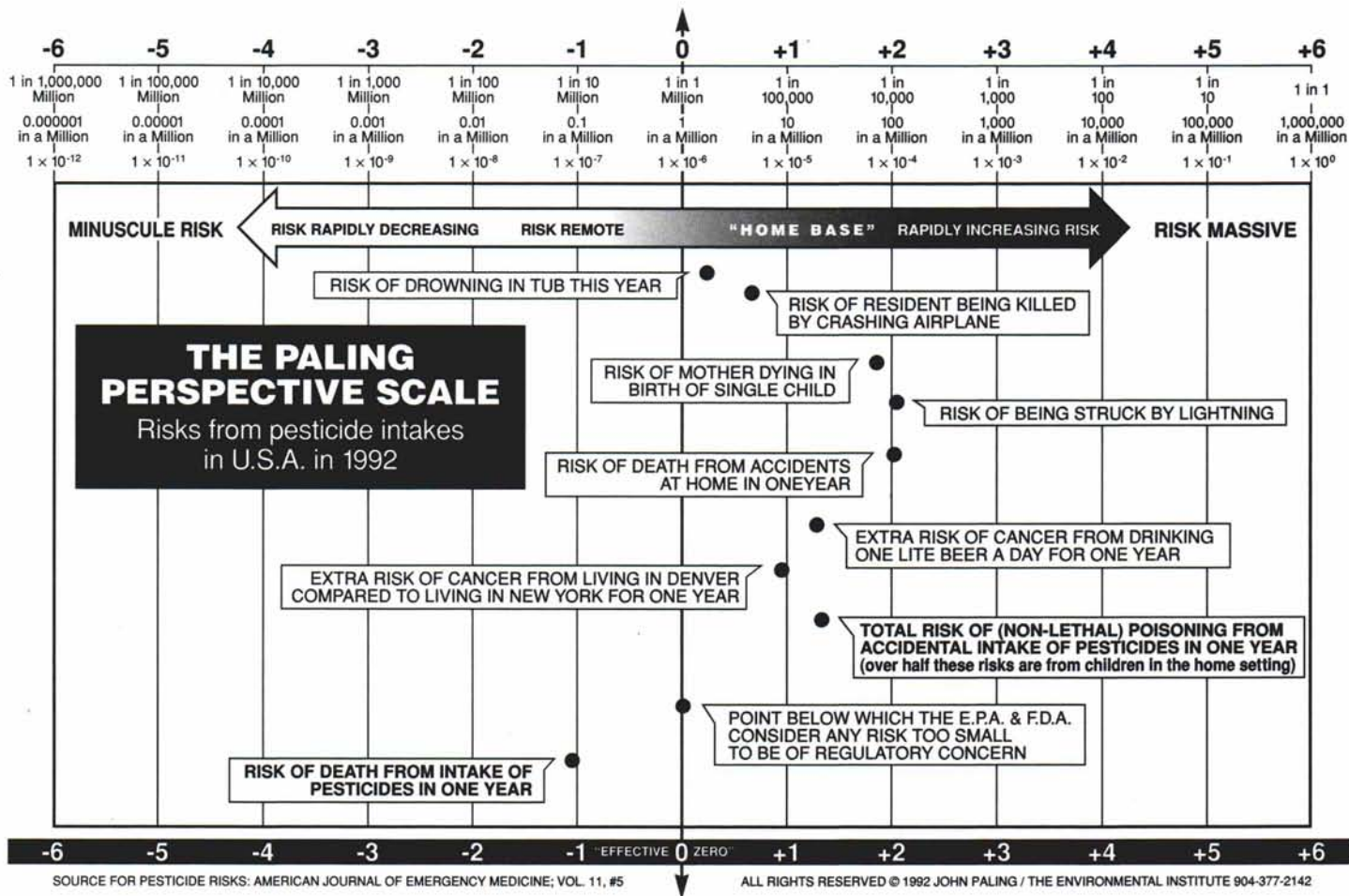
The "bottom line" of the scale displays simple numbers for all the levels of risk that could ever be important to the life of any individual on the planet earth (see figures). The scale ranges from a "-6" through "zero" to "+6," and every single risk that we know of can be effectively positioned on this one scale!

When you follow each of these numbers upwards to the top of the chart, the same risk level is expressed in three different ways. In other words, a "+6" on the scale is the same as a risk of 1 in 1, which is the same as a risk of 1,000,000 in a million, and is the same as what mathematicians call a risk of 1×10^0 . Similarly, the bottom line risk level of a "+2" is the same as an estimated risk of 1 in



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10,000, which is the same as a risk of 100 in a million, and in mathematical jargon is the same as a risk of 1×10^{-4} . Numbers in the "minus" zone to the left of center become rapidly less risky or less likely to occur, while those in the "plus" zone to the right of center become rapidly more serious or more likely to occur.

Communications Tool

There are many reasons why a scale such as this would be a valuable communications tool for the golf industry. First, the scale answers the need of frustrated superintendents, architects, and golfers who have tried to communicate risks associated with pesticides and fertilizers to people bombarded with a constant stream of unquantified claims of public health hazards. Second, there is a need to reassure the public about the relative safety of our modern lifestyle. Third, everyone involved in environmental and public health matters recognizes that some scale of comparative risk assessment has to be accepted as an integral part of decisions concerning regulations and cleanup processes. Finally, even though purists will regret it, we desperately need an all-embracing, *USA Today*-style scale to help people sort through and understand all the various methods of comparing risks.

With the *Paling Perspective Scale*, relative levels of risk quickly become intuitive based on a simple scale. This scale offers an irresistible improvement on anything else out there, and it moves us all toward a much sought-after goal of simplification, yet still is based upon available published science. The lack of such a "Richter Scale for Risks" has led to a string of undesirable consequences that extend from economic extravagance to public paranoia.

It should no longer be *news* that people are exposed to toxic or cancer-causing chemicals. Since the equipment and techniques used to detect chemicals are so sensitive, we now can detect such minute quantities that just about everything contains "toxic chemicals" at some level or another. We are all exposed to "cancer-causing" chemicals, and, most important, many have nothing to do with industrial activities. We now know that the healthy fruits and vegetables we eat contain minute quantities of natural poisons to protect them from disease and insects. It is ironic that if these naturally occurring chemicals were produced by industry, they would be banned as unsafe! So, the plain and undisputed truth is that we are surrounded by hundreds of potential but infinitesimal chemical hazards. It is the *dose that makes the poison*, and for the vast

majority of our life, minute doses are simply not poisonous. The general public needs to understand that even distilled water will kill you if you drink 15 gallons a day!

Everything we do in life has some associated risk. In fact, just staying in your own home for a 70-year lifetime holds 7,700 chances in a million of you incurring a fatal accident! From the moment you wake up to your morning coffee (cancer risk from dioxin in the bleached coffee filter) to the time you finally retire under your electric blanket at night (possible harmful effects of electromagnetic forces), your life is in danger. The undeniable truth is that there is really no such thing as "zero risk"!

In order for the *Paling Perspective Scale* to work, risks that intuitively "mean something" to the general public were first identified. These are the risks that people are comfortable in accepting and consider not worth worrying about based on their real life experiences. The odds quoted for some of these real risks associated with daily life fall into the *Home Base* range (see figures).

The *Home Base* range of risks falls between one in a million and about one in 10,000. When this is translated into the bottom line risk levels of the scale, *Home Base* for fatalities and very serious injuries at home turns out to be between "0" and

around "+2." To be on the overly cautious side, the figure of one in a million was selected as being the *Effective Zero* point for levels of risk. This is the same point chosen by the U.S. Food and Drug Administration as the risk point below which any risk from a food additive is considered too small to be a regulatory concern.

By the nature of things, there will always be some people who are exceptionally sensitive to a particular chemical, even though it has little or no effect on the rest of society. Good examples of this situation are those people extremely sensitive to bee stings or pollen. No scale, or regulation for that matter, can protect them! It is their *personal responsibility* to act upon what they know are real risks for them and to take sensible precautions. The *Paling Perspective Scale* represents a framework that makes it easier for the public to intuitively sense the relative seriousness of reported risks and to quickly recognize that *all worries are not equal*.

Golf, in many respects, has been unnecessarily pressured by some environmental organizations and uninformed citizens because they are worried about the pesticides and fertilizers used to maintain the golf course. The *Paling Perspective Scale* is progress toward developing a level playing

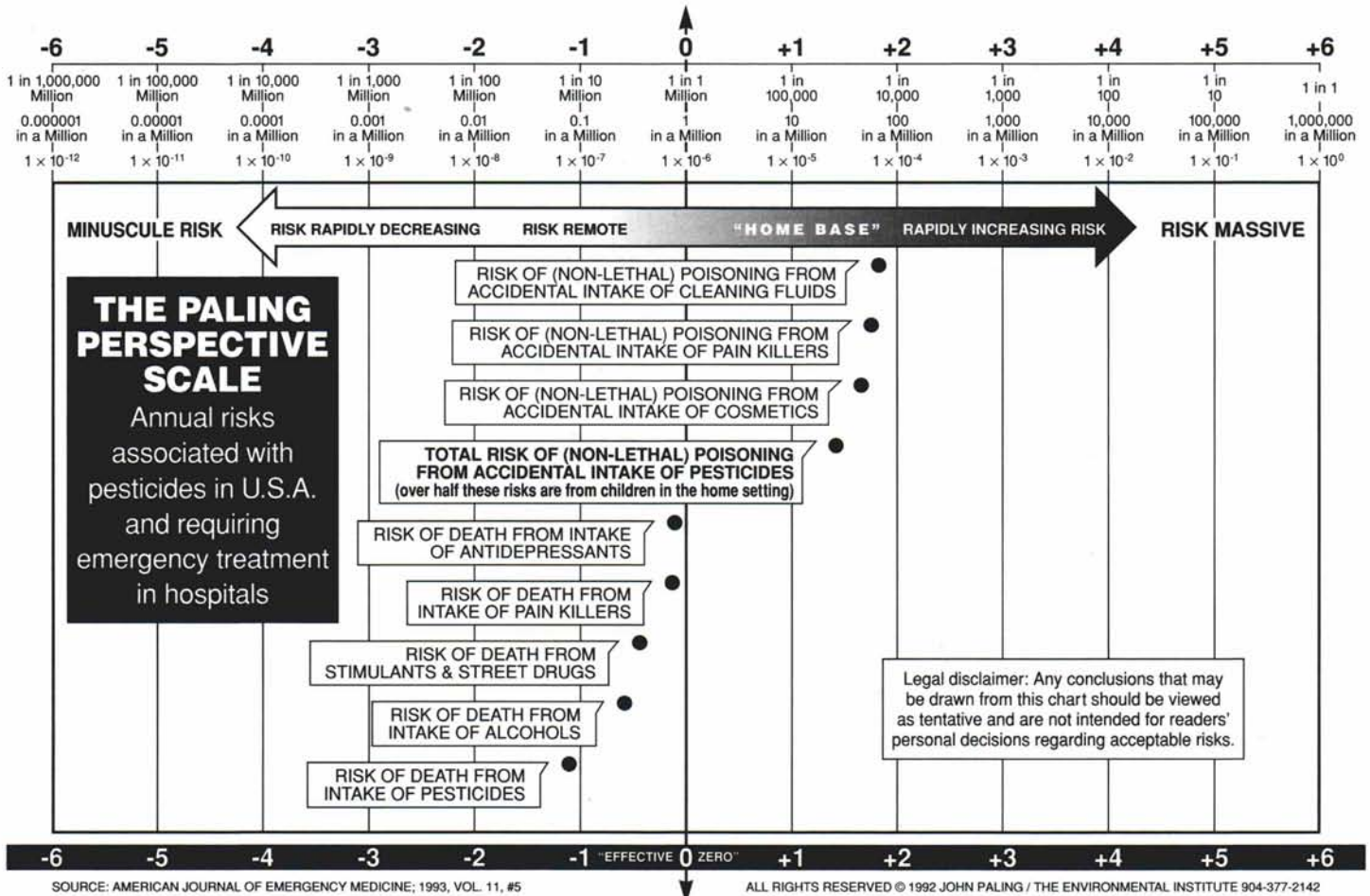
field, which challenges all parties to establish the relative strengths of their different positions. Everyone who plays golf or benefits in some way from the game is encouraged to use this scale as a key communication tool to identify *relative risks* and thus provide a much-needed perspective to the widespread alarm generated by the large number of reported hazards in modern life.

A goal of the USGA is to establish the relative risk of golf to individuals playing the game, maintaining the grounds, or living next to a course. The pesticide and nutrient

fate information from the USGA's Environmental Research Program will serve as a basis for estimating risk assessment numbers and then placing them on the *Paling Perspective Scale*. This goal cannot be accomplished overnight, due to the relative complexity of performing risk analysis studies. But no one can deny that golf needs a simple communication tool that helps establish the relative risks associated with the game and sheds some perspective about what is really worth worrying about in life!

The Paling Perspective Scale is a versatile communications tool that:

- Allows the recording of all calculable risks on a scale of "-6" to "+6," with zero being perceived, for all practical purposes, as totally safe for the vast majority of all people on the planet.
- Identifies its "zero" point based on levels of risk that the public knowingly recognizes, yet chooses to ignore by not changing existing behaviors materially.
- Compares many different types of risk by expressing them all as chances in a million — immaterial of the original chemical/nuclear/electromagnetic or medical units in which the concentrations and risk were initially measured.
- Enables communicators to show the relative levels of risk associated with different hazards against a bottom line number that the public easily becomes intuitively familiar with.
- Serves as a platform for risk assessment professionals to communicate with the public on the relative positioning of relative hazards under different circumstances.
- Has very wide application, yet immediately is most useful in the area of public health risks from industrial and business pollution.
- Is a major improvement on the situation that we face in the absence of such a perspective scale.



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