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Real-Life Risk Analysis

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Real risks of real life don't always involve airplanes and nuclear power plants. Dr. M. Elisabeth Paté-Cornell shares a personal example: She has a two-year-old little boy who likes to tumble down the stairs in her new home. If that doesn't sound dangerous enough, the landing also has a sharp post. Dr. Paté-Cornell uses risk analysis to calculate the number of times her son might tumble down the stairs, the accident rate and possible solutions. The result: She builds a bumper of three baskets that can absorb the force of a basketball without breaking.

Transcript

OK, I'm talking about real risk, so real risks of real life. I'm going to start with a very simple example and a very real one to show you all the different sources of data in risk analysis. And risk analysis is not only for airplane, satellites and nuclear power plants, but consider the following real problem to me. I had a two-year-old little boy who really liked to tumble down the steps. And we were about to move in a house where on the landing of the stairs, there was a sharp post. And immediately, without writing anything, I thought about the risk that he could kill himself. So here are the data that I had. The frequency of falls, it was roughly once a week, so statistics. But of course I hoped he was going to stop doing that. I had an engineering model of a baby as a ball, one-third of which is the head.

How is that? Very subtle engineering. And there was a sharp corner on the landing of the stairs. And I had and I still have an excellent neighbor who happens to be a doctor of emergency rooms so I said. "What do you think?" And he said, "Well, one chance in 10 that he might really hit himself." So you see the result if you put all these together from very different sources of data, gave me a risk of accident of 130 per week which was enormous and I found a risk management solution that was an engineering solution. I put three baskets, soft baskets, one inside of the other, in front of the post, tested it with a basketball. And it's the equivalent, in fact, of springs in series. There you had it. And by the way, not a gate at the top of the stairs because someone would have left it open. OK, so the lesson in this that there are many kinds of different data that you can use, statistics, models, expert opinions. And when things when it's very important to me, that's the way I think about it.