

**PROFESSOR:** We all know that breakfast is the most important meal of the day. And our staple for breakfast is the egg. There's omelettes, there's scrambled, there's hard boiled, but there's one type of egg that I don't know anyone that knows how to make it, and what is that? That's the poached egg. Oh, making a poached egg is easy, you know, I'll just go on to Google and see how to make a poached egg, it's not a big deal. But it's not that easy. And there's actually a lot of science that goes into poached eggs.

The basic principle behind poaching eggs involves protein. Protein is made up of amino acids. When those amino acids are subject to heat, they lose their form and they solidify. This is commonly what you see in over easy or over hard eggs. That white crust that forms on the yolk, that's called ovalbumin, or ovalbumin, and that's the main protein that is in the egg.

Now, what happens when you poach an egg is you have to have this process, this denaturing occur very rapidly or else the egg will dissipate into the water and you won't get a good poached egg. Now, to do that you have to have a very high temperature. And it is known that ovalbumin denatures at a very high acidity.

So what you do is you'd have to add some sort of acid to the water that you're boiling the egg in. So that can be either lemon juice or it could be vinegar, anything that will lower the acidity of the water, which is typically around 7.0. That's what's going to give you the best poached egg.