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# Cassava and Mental Deficits

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Konzo, a disease that comes from eating bitter cassava that has not been prepared properly — that is, soaked for days to break down its natural cyanide — has long been known to cripple children.

The name, from the Yaka language of Central Africa, means “[tied legs](#),” and victims stumble as if their knees were bound together.

Now researchers have found that children who live where konzo is common but have no obvious physical symptoms may still have mental deficits from the illness.

[Cassava](#), also called manioc or tapioca, is eaten by 800 million people around the world and is a staple in Africa, where bitter varieties grow well even in arid regions. When properly soaked and dried, and especially when people have protein in their diet, bitter cassava is “pretty safe,” said Michael J. Boivin, a Michigan State psychiatry professor and lead author of [a study](#) published online by Pediatrics. “But in times of war, famine, displacement and hardship, people take shortcuts.”

In the Democratic Republic of Congo, Dr. Boivin and colleagues gave tests of mental acuity and dexterity to three groups of children. Two groups were from a village near the Angolan border with regular konzo outbreaks: Half had leg problems; half did not but had cyanide in their urine. The third was from a village 125 miles away with a similar diet but little konzo because residents routinely detoxified cassava before cooking it.

The children from the latter village did “significantly better” on tests of remembering numbers, identifying objects, following mazes and fitting blocks together, while healthy-looking children from the first village did almost as badly as children with obvious konzo.

The mental damage was like that done by lead exposure but more subtle, Dr. Boivin said.

The Bill and Melinda Gates Foundation is supporting efforts to create [cassavas with less cyanide](#), but they have yet to succeed. One drawback, Dr. Boivin said, was that the pest-resistant and rot-resistant qualities of bitter cassava appeared to be partly due to its higher cyanide content.