Interventional radiology offers minimally invasive therapies that have clear advantages over surgical procedures. Radiological interventions are safer, better tolerated and cheaper. One would assume that radiological interventions would be rapidly adopted once they have been shown to be equally effective as the surgical alternative. Not infrequently though, implementation of a radiological intervention into clinical practice is hampered, despite availability of scientific evidence demonstrating non-inferiority or even superiority over current standard of care. This lecture will discuss promising radiological interventions that could or should have been first-choice treatments but have thus far failed to have a significant impact on clinical management. The technique, indications and available scientific literature will be addressed of ‘misknown’ radiological interventions, such as percutaneous hepatic perfusion, renal tumor ablation, uterine artery embolization, thyroid ablation and percutaneous placement of peritoneal dialysis catheters.

**Competing Interests**
The author has no competing interests to declare.