



## Fantastic voyage: The peeping pill

In the 1966 movie *Fantastic Voyage*, Raquel Welch and her colleagues were shrunk (“nano-ized?”) and, in their miniature submarine, the *Proteus*, were injected into the circulatory system of a comatose scientist, where they raced against time to provide the most direct thrombolysis of a brain clot ever conceived. Along the way, they encountered many obstacles, including an attack by killer antibodies.

As with space flight, the unmanned approach to exploration of the dark reaches of the human body, though perhaps not as glamorous, is certainly infinitely more practical.

And so, we now have the peeping pill, a disposable miniaturized video camera enclosed in a capsule that can be swallowed. On page 415 of this issue, Drs. Ali, Santisi, and Vargo<sup>1</sup> describe the use of this technology to examine the inside of the gastrointestinal tract without the necessity of inserting anything, as the BBC delicately put it,<sup>2</sup> “up the back passage.” This has advantages for the comfort of the examinee and examiner, as well as for the completeness of the examination. It holds promise for finding occult bleeding sites, and it provides a direct method for visualizing the inside of the small intestine; the authors discuss other proposed uses for it, as well. So far, it does not have the capability of obtaining biopsy tissue or of being actively controlled from outside the body, but given the ingenuity of the nanotechnologists, these limitations are likely to give way in time.

Fortunately for Raquel, there is no need for her to volunteer for a murky tour of the gastrointestinal tract. Isaac Azimov, who eventually wound up novelizing *Fantastic Voyage* from the screenplay,<sup>3</sup> would have loved it.

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### REFERENCES

1. Ali A, Santisi JM, Vargo J. Video capsule endoscopy: a voyage beyond the end of the scope. *Cleve Clin J Med* 2004; 71:415-425.
2. BBC News. Video pill's 'fantastic voyage.' <http://news.bbc.co.uk/1/hi/sci/tech/762415.stm>. Last accessed 4/5/04.
3. Asimov I. *Fantastic Voyage*. A novel based on the screen play by Harry Kleiner, adapted by David Duncan from the original story by Otto Klement and Jay Lewis Bixby. London: D. Dobson, 1966.