Why does it take millions of sperm to fertilize an egg? [1]

Alice,
Why does it take millions of ejaculated sperm to fertilize one egg?

Answer

Dear Reader,
Because they don't ask for directions. Ba-da-boom.

Seriously though, the short and sweet answer is this: the 200 to 600 million sperm normally found in ejaculate increases the chance that some will reach a mature egg, eventually with just one being able to enter and fertilize it. Evolution likely accounts for the high sperm count in a typical ejaculate — a male who is able to produce more sperm obviously has a better likelihood of fertilizing a female than his competitors. In some species, this male may be the one with the largest testicles, which produce more sperm than smaller sized balls.

So, what happens to most of the released sperm on their journey to the egg? Well, as sperm swim through the vaginal canal and into the cervix, they hit a "fork in the road," so to speak. At this juncture, some sperm travel to one fallopian tube, while the rest move on to the other. However, only one fallopian tube has a fertile egg at a given time. The sperm that do not reach an "impasse" surround the mature egg and compete with the other sperm in trying to penetrate it. If a woman's sexual and reproductive health are in good working condition, the first sperm to cross the finish line (enter the egg) succeeds in fertilizing it. "Helper" sperm can also be credited for easing fertilization by allowing this particular sperm access to and contact with the mature egg during its trip. With conception initiated, the now fertilized egg sets off some mechanisms, such as thickening of cervical mucus and hardening of its outer surface (zona pellucida), to block all other sperm from entering the egg.

Interestingly, some researchers have theorized that sperm have adapted to take on certain roles, other than for fertilization. For example, abnormal sperm that cannot fertilize may instead function to find and destroy or block competing sperm from other males that also may be making the rounds through a female's reproductive tract. This hypothesis is not without controversy. Alternatively, other researchers have argued that abnormal sperm are simply abnormal. Regardless, it's agreed that more research needs to be done on sperm structure and function.
before greater consensus can be made.

Alice!
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Published date:
Oct 25, 2002
Last reviewed on:
Feb 11, 2015

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