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Sperm Penetration into Rat Ova Fertilized *In Vitro*

RUTH SHALGI ¹ AND DAVID M. PHILLIPS ²

¹ *Department of Embryology, Medical School, Tel Aviv University, Ramat Aviv, Israel*

² *Population Council, New York, New York*

The scanning electron microscope was used to study the morphology of sperm entry into the zona-intact rat ova fertilized *in vitro*. It is the anteriormost tip of the sperm head, which first associates with and is then incorporated into the ovum. Incorporation progresses caudally, so that the postacrosomal region is the last portion of the spermatozoon to be incorporated into the ooplasm. This tip-to-base incorporation is in contrast to the situation which is seen when ova which have been fertilized *in vivo* are examined with the same techniques. *In vivo*, the spermatozoon first associates with the ovum at the convex surface of the sperm head. During incorporation the spermatozoon turns on its "side". The prominent incorporation cone observed in the rat ova, fertilized *in vivo*, is not observed in ova fertilized *in vitro*.

Key words: fertilization, sperm penetration, spermatozoon, oocyte

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