**Posthumous Sperm Retrieval**

**Posthumous sperm retrieval** (**PSR**) is a procedure in which [spermatozoa are extracted](https://en.wikipedia.org/wiki/Semen_extraction) from a human male after he has been pronounced legally [brain dead](https://en.wikipedia.org/wiki/Brain_death). There has been significant debate over the ethicality and legality of the procedure, and on the [legal rights](https://en.wikipedia.org/wiki/Legal_rights) of the child and surviving parent if the [gametes](https://en.wikipedia.org/wiki/Gamete) are used for [impregnation](https://en.wikipedia.org/wiki/Pregnancy).

Cases of post-mortem conception have occurred ever since human [artificial insemination](https://en.wikipedia.org/wiki/Artificial_insemination) techniques were first developed, with sperm donated to a [sperm bank](https://en.wikipedia.org/wiki/Sperm_bank) being used following the death of the donor. While religious arguments have been brought against the process even under these circumstances, far more censure has arisen from a number of quarters with regards to [invasive](https://en.wikipedia.org/wiki/Invasiveness_of_surgical_procedures) retrieval from fresh [cadavers](https://en.wikipedia.org/wiki/Cadaver) or patients either on [life support](https://en.wikipedia.org/wiki/Life_support) or in a [persistent vegetative state](https://en.wikipedia.org/wiki/Persistent_vegetative_state), particularly when the procedure is carried out without explicit consent from the donor.

The first successful retrieval of sperm from a cadaver was reported in 1980, in a case involving a 30-year-old man who became brain dead following a motor vehicle accident and whose family requested sperm preservation. The first successful conception using sperm retrieved post-mortem was reported in 1998, leading to a successful birth the following year. Since 1980, a number of requests for the procedure have been made, with around one third approved and performed. Gametes have been extracted through a variety of means, including removal of the [epididymis](https://en.wikipedia.org/wiki/Epididymis), [irrigation](https://en.wikipedia.org/wiki/Irrigation) or [aspiration](https://en.wikipedia.org/wiki/Needle_aspiration_biopsy) of the [vas deferens](https://en.wikipedia.org/wiki/Vas_deferens), and rectal probe [electroejaculation](https://en.wikipedia.org/wiki/Electroejaculation). Since the procedure is rarely performed, studies on the efficacy of the various methods have been fairly limited in scope.

While [medical literature](https://en.wikipedia.org/wiki/Medical_literature) recommends that extraction take place no later than 24 hours after death, [motile](https://en.wikipedia.org/wiki/Motility) sperm has been successfully obtained as late as 36 hours after death, generally regardless of the [cause of death](https://en.wikipedia.org/wiki/Cause_of_death) or method of extraction. Up to this limit, the procedure has a high success rate, with sperm retrieved in nearly 100% of cases, and motile sperm in 80–90%. There is currently little precedent for successful insemination using sperm harvested after 36 hours. New technologies are being researched that could make this a routine reality, in turn creating new ethical dilemmas.

If the sperm is viable, fertilisation is generally achieved through [intracytoplasmic sperm injection](https://en.wikipedia.org/wiki/Intracytoplasmic_sperm_injection), a form of [in vitro fertilisation](https://en.wikipedia.org/wiki/In_vitro_fertilisation). The success rate of in vitro fertilisation remains unchanged regardless of whether the sperm was retrieved from a living or dead donor.