Heteropaternal Super-fecundation
What is Heteropaternal Superfecundation?

Fertilization of two or more ova from the same cycle by sperm from separate acts of sexual intercourse.

The term superfecundation is derived from fecund, meaning the ability to produce offspring.

Heteropaternal superfecundation occurs when two different males father fraternal twins.
Superfecundation most commonly happens within hours or days of the first instance of fertilization with ova released during the same cycle.

The time window when eggs are able to be fertilized is small. Sperm cells can live inside a female's body for four to five days.

Once ovulation occurs, the egg remains viable for 12–48 hours before it begins to disintegrate. Thus, the fertile period can span five to seven days.
Heteropaternal superfecundation is common in animals such as cats and dogs. Stray dogs can produce litters in which every puppy has a different sire.

Though rare in humans, cases have been documented. In one study on humans, the frequency was 2.4% among dizygotic twins whose parents had been involved in paternity suits.
How frequent is heteropaternal superfecundation?

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**Abstract**

A newly discovered case of heteropaternal superfecundation (HS) is reported. Three HS cases were found in a parentage test database of 39,000 records. The frequency of HS among dizygotic twins whose parents were involved in paternity suits is 2.4%. Although the study population appears similar to the general population with respect to twinning data, inferences about the frequency of HS in other populations should be drawn with caution.
If a female has sexual intercourse with two males at short intervals within the same ovulatory period, superfecundation may occur. This article reports two cases of paternity identification in twins. The results showed that each twin had come from a different father. Thus, great attention should be paid to such a situation when the twin paternity identification is asked for.
A Texas mother of twins got the shock of her life when doctors revealed that her 11-month-old boys do not have the same father

Mia Washington decided to get some expert advice when she and her partner noticed that twins Justin and Jordan had different facial features. Paternity tests then revealed what had happened — two eggs had been fertilized by two different sperm and there was a 99.99% chance the twins had different dads.

Doctors at the DNA lab in Dallas, Texas had never seen such a result. Washington later admitted she had had an affair and got pregnant by two different men at the same time.

"Out of all people in America and of all people in the world, it had to happen to me, she told myfoxdfw.com. "I'm very shocked."

"It is very crazy. Most people don't believe it can happen, but it can," Genny Thibodeaux, Clear Diagnostics President, told the news station.

When twins have two fathers, doctors call it heteropaternal superfecundation, according to myfoxdfw.com. It's so rare — there are only a handful of documented cases in the world.
Indisputable double paternity in dizygous twins

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Abstract

OBJECTIVE:
- To report a case of heteropaternal superfecundation.

DESIGN:
- Case report.

SETTING:
- University paternity laboratory.

PATIENT(S):
- Father, mother, and a set of twins.

INTERVENTION(S):
- Blood typing conventional markers, as well as polymerase chain reaction loci and restriction fragment length polymorphism loci of DNA.

MAIN OUTCOME MEASURE(S):
- Heteropaternal superfecundation was demonstrated after paternity investigation.

RESULT(S):
- The probability of paternity for twin 1 was 99.9999998%, whereas that for twin 2 was excluded on the basis of the following tests: Fy, Pi, human leukocyte antigen (HLA)-DQA1, D1S80, D17S5, HBGG, D5S110, D2S44, and D10S28.

CONCLUSION(S):
- Dizygous twins can have different biologic fathers, as demonstrated in this case. According to published data, the frequency of twins with different fathers is probably underestimated, at least in small selected populations such as those of paternity suits.
Abstract

It is estimated that at least one dizygotic (DZ) twin maternity in twelve is preceded by superfecundation (the fertilization of two ova by sperm from different coititions). Presumably this parameter varies from population to population eg. with coital rates and rates of double ovulation. Sometimes superfecundation occurs by two different men. The frequency with which this occurs must depend on rates of infidelity (promiscuity). It is suggested that among DZ twins born to married white women in the U.S., about one pair in 400 is bipaternal. The incidence may be substantially higher in small selected groups of dizygotic twin maternities, eg. those of women engaged in prostitution.
Can It Really Happen?