THE OPU PROCESS

The Ovum Pick-Up (OPU) process is the first step of *in vitro* fertilization, where oocytes are collected from the donor before being taken to a Vytelle lab. Below you will find the most frequently asked questions regarding our OPU process:

ARE OPU PROCEDURES SAFE?

Ovum pick-up is extremely safe, with very low risk to donors. Prior to the procedure, the donor will receive epidural anesthesia, blocking all sensitivity of the ovaries and ensuring maximum comfort.

WHAT IS A QUALIFIED DONOR?

Donors must be physically mature enough for the technician to perform the OPU procedure. Because our process does not require hormone injections to set up donors for OPU, a qualified donor can be any female in your herd, including heifers as young as 6 months of age, open cows past 15 days postpartum and pregnant animals up to 100 days of gestation.

DO I NEED TO SET UP MY DONOR PRIOR TO THE OPU?

There is no set-up required prior to our IVF process, as we do not use follicle stimulating hormone (FSH) at any point. This allows producers the opportunity to select any donor, at any time, for IVF, while providing several benefits for the animal, the product and your operation.

No hormones added here! Our IVF process is open to all organic cattle operations.

CAN BRED DONORS GO THROUGH THE OPU PROCESS?

Our OPU procedure can be done as early as one week post breeding and continue up to 100 days of gestation. Keep in mind that the embryo is most susceptible to stress between days 5 to 42. Stress from transportation is likely greater than stress from the OPU process itself.

WHAT IS THE DURATION OF THE OPU PROCESS?

On average, OPU takes about 10 to 15 minutes per donor, but varies by the amount of follicles.

HOW FREQUENTLY CAN OPUS BE DONE?

Ovarian tissue is capable of extremely fast regeneration, allowing safe collection from the same donor as soon as seven days after the first collection. Work with a Vytelle technician to customize an OPU schedule for each donor, dependent on embryo needs. For best results, we recommend most donors be aspirated every two weeks.

HOW MANY OOCYTES ARE COLLECTED ON AVERAGE?

On average, dairy cattle produce around 23 oocytes per OPU, while beef cattle produce around 25 oocytes per OPU.

DOES THE DONOR'S AGE INFLUENCE THE NUMBER OF OOCYTES AND EMBRYOS PRODUCED?

Yes. Young and prepubertal donors can produce many oocytes, although they typically have a lower embryonic conversion rate. For mature cows, the oocyte to embryo conversion rate is estimated to be around 25-30% (grade 1 embryos only). Prepubertal females tend to have lower conversion rates, around 15-20%.

We can collect from animals as young as 6 months of age, but results tend to improve once a heifer reaches sexual maturity or first heat.

IS THERE A DIFFERENCE IN THE NUMBER OF OOCYTES HARVESTED WHEN FOLLICLE STIMULATING HORMONE (FSH) IS NOT USED?

There is no difference in the number or quality of oocytes collected, with or without the use of FSH. FSH simply increases the follicle size; it does not increase the quantity of oocytes available. Vytelle certified technicians are trained to aspirate small follicles, which allows them to achieve consistent collection rates, comparable to those animals given FSH.

AM I ABLE TO FERTILIZE WITH MULTIPLE SIRES FROM ONE IVF COLLECTION?

Yes. If more than 30 oocytes are recovered from a donor, multiple sires can be used to fertilize the oocytes.

WHEN WILL FINAL EMBRYO NUMBERS BE AVAILABLE AFTER OPU?

Final embryo numbers are available 9 days after the OPU or 8 days after fertilization takes place.

CAN EMBRYOS BE EXPORTED?

Embryos can be exported, but if you plan to export your embryos, please inform Vytelle prior to the OPU process as every country has different requirements and factors involved.

UNDERSTANDING IVF

WHAT'S THE DIFFERENCE BETWEEN EMBRYO FLUSHING AND IVF?

Conventional embryo flushing is a process where fertilization and embryo development takes place within the donor, and the embryos are then flushed out for fresh embryo transfer or freezing.

In Vitro Fertilization (IVF) is the process of collecting oocytes (unfertilized embryos) from donors and fertilizing them in a lab setting. Embryos are then created eight days after ovum pick-up.

WHERE CAN I ATTEND AN IVF COLLECTION?

Vytelle has vast network of satellite partners all across the United States who host IVF sessions biweekly or monthly. Visit our website to find the location nearest to you.

WHAT IS THE COST STRUCTURE?

Vytelle has no hidden fees or upfront costs—simply one price per grade 1 embryo produced. Grade 2 embryos are available upon request.

For more information, please consult with your local satellite manager or Vytelle representative.

TO LEARN MORE, VISIT VYTELLE.COM

FERTILIZATION & EMBRYO DEVELOPMENT

After the oocytes are collected, they are fertilized and cultured to support the growth of grade 1 embryos.
Below you will find the most frequently asked questions regarding fertilization and embryo development:

WHAT IS VYTELLE'S EMBRYO QUALITY?

Vytelle only freezes grade 1 embryos, which are the vast majority of our embryos produced. It is not expected to have high volumes of grade 2 embryos develop in our system, but if they are desired, they are available upon request at a decreased price.

HOW MANY STRAWS OF SEMEN ARE NEEDED TO FERTILIZE OOCYTES?

The number of straws may change according to the total number of oocytes collected from donors, and the semen quality. We recommend sending two straws for each sire, along with having a backup mating at the lab.
One straw of high-quality conventional semen fertilizes an average of 210 oocytes, and presorted fertilizes an average of 150 oocytes.
Two straws of semen is required for reverse sorting semen procedures.
Depending on the quality of the semen, it can fertilize 120-150 oocytes.

WHEN WILL SEMEN BE NEEDED?

Semen will be used the day after the OPU procedure. Semen can be picked up the same day as the oocyte collection if we are driving to the OPU location that day. If the OPU team is flying, semen should be shipped to the lab one week before the collection.
Please contact your local POWERED BY VYTELLE satellite manager or Vytelle client service manager to discuss semen shipping options.

WHAT IS REVERSE SORTED SEMEN?

Reverse sorting technology sorts semen for a chosen gender from a conventionally frozen semen straw. This is licensed and operated by ST Genetics, and occurs during fertilization.
Because this process takes multiple hours per sample, we offer a limited number of sorting spots each day. Please contact your local POWERED BY VYTELLE satellite manager to discuss availability.

FREEZING & IMPLANTATION

Once the embryo is developed, it can be frozen or transferred fresh into recipient cows.
Below you will find the most frequently asked questions regarding freezing and implantation:

DO EMBRYOS NEED TO BE USED RIGHT AWAY OR CAN THEY BE FROZEN?

Embryos may be used fresh and implanted directly into qualified recipients or frozen for future implantation.

HOW ARE FRESH EMBRYOS TRANSPORTED TO THE FARM?

Fresh embryos are packaged in a portable straw incubator, then driven and delivered by a Vytelle employee or a trusted courier the morning of transfer. If the distance exceeds 7 hours from the lab, embryos can leave the lab the day before the transfer. Embryos should be transferred quickly after arriving.

WHEN DO MY RECIPIENTS NEED TO BE IN HEAT FOR IVF EMBRYO TRANSFER?

Ensure your recipients have synchronized heats detected 7-8 days prior to the implantation date.
Consult your embryo transfer technician for protocol recommendations.

For fresh embryo transfer (ET), recipients need to be in heat on the oocyte collection day and/or a day after the oocyte collection day.

WHAT IS VYTELLE'S FROZEN EMBRYO PROCESS?

Embryos are frozen using the Direct Thaw (DT) method. This makes it convenient for a trained embryo transfer technician to efficiently implant the embryo without any unnecessary handling.

WHAT IS THE EXPECTED PREGNANCY RATE WITH IVF?

For frozen grade 1 embryos, expect a 45-50% pregnancy rate, with frozen grade 2 embryos performing around 35-40%. For fresh grade 1 embryos, expect 55-60% successful pregnancy rate with fresh grade 2 embryos around 40-45%.
These averages vary depending on several factors including donor management, recipient management and transfer technician.

ARE ANY RECIPIENTS SKIPPED DURING IMPLANTATION?

All recipients are checked for an adequate Corpus Luteum (CL) before an embryo is implanted. On average, 5-10% of recipients are skipped during implantation. It is important to account for this kick-out rate when coordinating fresh transfers

Vytelle

ADVANCE

IVF FAQ