



**OPU / ICSI
Services at
Tomlinson
Equine**



Tomlinson Equine Ovum Pick Up (OPU) & ICSI Services.

In this document you will find more information on the breeding method, requirements and associated costs.

Please read this document in full. If you would like to book your mare in for OPU please complete the TE OPU booking form & send to the TE office. By signing the booking form, you declare that you have read and understood the information outlined and will be agreeing to Tomlinson Equine's Pricelist, Terms & Conditions.

If you have any further questions please don't hesitate to ask and the office team.

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What is OPU?

Ovum Pick Up (followed by ICSI and Embryo Transfer) is a procedure where oocytes (eggs) are recovered from your mare's ovaries. The recovered oocytes are then sent to a technically competent lab (located in Europe) where they are matured and subjected to ICSI (“in vitro” fertilisation) with frozen semen from a stallion that is chosen by you. Any viable embryos produced after a period of 7-9 days can be frozen and transported back to the UK or elsewhere for subsequent transfer into a recipient mare.

Why Choose OPU?

Ovum Pick Up (OPU) is beneficial for a number of reasons including in high-level competition mares with busy schedules as it avoids the necessity for repeat scans & time involved with AI & ET. Mares with a history of uterine infections, oviduct problems or other infertility issues can also benefit from OPU/ICSI to increase their fertility. OPU can also be performed outside of the breeding season as mares do not need to be cycling in order for oocytes to be recovered. It is also very useful where semen is limited from a particular stallion due to infertility or death, since only a fraction of a frozen semen straw is required for the ICSI procedure. Another application of OPU & ICSI is where frozen embryos are desired, since ICSI-produced embryos have a much higher post-thaw pregnancy rate compared with conventionally flushed and frozen embryos. It is also possible to sex ICSI-produced embryos before freezing and transferring. Ideally though, OPU should only be performed if other methods of Artificial Breeding have been tried and were unsuccessful due to the slightly increased risk of complications (e.g. peritonitis or abdominal pain) compared to other breeding methods.



The Procedure

OPU is performed on a short stay basis. Your mare will need a few scans prior to the OPU procedure in order to time the OPU procedure. These can be done at home by your reproductively competent vet or with us on a residential or walk-in basis. Once the OPU session has been provisionally planned, your mare will need to be scanned by us the week before the session in order to confirm the OPU session and book the ICSI lab slot. The OPU procedure itself lasts around one hour. Using a specially adapted ultrasound probe (with an aspiration needle attached) placed in your mare's vagina, the follicles on your mare's ovaries are aspirated in order to retrieve the oocytes. Since the oocyte recovery rate is never 100%, your mare needs at least 15 follicles of a certain size (10-25mm diameter) in order to proceed with an OPU session. This is established in the scanning sessions prior to the OPU procedure. We recommend mares come to the centre a few days before the procedure if possible as this allows them to be settled and monitored closely prior to the procedure. We prefer the mare to stay with us for 24-48 hours post OPU so we can monitor their demeanour and temperature to ensure there are no negative effects of the OPU procedure on the mare, and if there are, then we can act quickly.

Intra-cytoplasmic Sperm Injection (ICSI) is the only method of IVF available in horses and is carried out in specialist ICSI laboratories. The resultant embryos are grown in the lab and if they are of good enough quality to be frozen & transported back to us. We are able to use your own recipient mare to transfer the embryo and carry the pregnancy or we have a recipient mare herd for you to hire, if you don't have your own. The embryo transfer procedure of ICSI frozen embryos can be done at any time, but we recommend that it is done in the middle of the breeding season (May, June, July) as the success rates are higher due to fertility rates being the highest at this time.



Donor Mare Requirements for EU Compliant Frozen Embryo Production

(for any other country's requirements please specify and ask for more info)

- The donor mare shall:
 - not be used for natural breeding during at least 30 days prior to the date of collection of ova or embryos and between date of the sampling for EIA and CEM and the date of the collection of ova and embryos;
 - have negative blood results for EVA since 1st January and Strangles within 30 days of arrival to the centre;
 - have negative results (APHA Weybridge) to an agar-gel immuno-diffusion test (Coggins test) or an ELISA for equine infectious anaemia carried out on a blood samples taken not less than 14 days following the date of the commencement of the no breeding period of at least 30 days prior to the date of the first collection of ova or embryos and not more than 90 days prior to the collection of ova and embryos for trade;
 - have negative results (APHA Penrith) to an agent identification test for contagious equine metritis (CEMO) carried out on samples collected from mucosal surfaces of the clitoral fossa and clitoral sinuses (x2) (ie two charcoal swabs) on two occasions at least 7 days apart in the case of culture for isolation of *Taylorella Equigenitalis* and on one occasion in the case of PCR or real time PCR for the detection of genome of *Taylorella Equigenitalis* Culture or PCR samples must be collected at least seven days (in the case of systemic treatment) or 21 days (in the case of local treatment) after any antimicrobial treatment has been carried out on the donor mare (PCR samples preferred).
 - The APHA Lab Form MUST also specify that both clitoral charcoal swabs undergo culture for isolation of *Klebsiella pneumoniae* & *Pseudomonas aeruginosa* (TC0101) (as well as the CEMO for *Taylorella equigenitalis* described above). The turnaround time for this result (TC0101) is around 7days. In case of urgency having results, 2x extra clitoral charcoal swabs could be sent to BioTe Lab to be processed for genome detection by PCR and turnaround time is around 2 days.
- The mare must have the samples for equine infectious anaemia (EIA) and contagious equine metritis (CEMO) taken on a date specified by Tomlinson Equine. The type of lab tests will also be specified by Tomlinson Equine. Failure to take the samples on this date or failure on using the required lab test will incur a further admin fee.
- The mare must have not travelled outside of the UK for 30 days prior to the procedure and after the blood test has been taken.
- The mare should have at least 15 follicles larger than 10mm (but ideally smaller than 25mm) in diameter. (Older mares can be accepted for OPU sessions with 10 follicles larges than 10mm and smaller than 25mm).



What to Expect

The average oocyte recovery rate is around 50-60% (this is dependent on individual mares' circumstances).

The likelihood of one or more embryos being produced as a result of an OPU session is around 60%. The chances of a pregnancy from the frozen embryo is 70%. The chances of early embryonic loss are around 10-15%. OPU sessions can be repeated every 21-28 days. Sometimes longer intervals are required

Risks & Complications

Please be aware that OPU is an invasive veterinary procedure and therefore there are risks involved. Potential complications include rectal tears, mild to severe bleeding, abscesses, peritonitis and death. In addition, sedation can result in colic. Some mares are not suitable for OPU, if your mare shows signs of great discomfort, we reserve the right to interrupt and stop the session if we feel there is any adverse risk to your mare.

Your mare may show some discomfort or have an elevated body temperature following the procedure. Some can also be lethargic for a couple of days. We recommend your mare stays at the centre for 1-2 days after the procedure for closer monitoring.

Transport

Tomlinson Equine take no responsibility for any germplasm transport complications. Transport costs are not dictated by Tomlinson Equine and are non-refundable after the point of confirming the provisional OPU session your mare is in, even if the session needs to be stopped or no oocytes are recovered. Transport costs will be invoiced around the time of OPU session booking and will need to be paid for prior to the OPU Session.

Pricing

Below is a guide to our pricing for OPU, ICSI and Embryo Transfer. Each procedure is charged separately at the time it is carried out. Please note that we offer a 10% prompt payment discount on all livery invoices and 5% on all vet invoices paid within 10 days, so the prices stated below are at the discounted rate. Please note that there will also be Export Health Certification & frozen semen handling costs in addition to the below prices – these vary depending on where the semen is located. Prices for directly transferring the Embryo in Europe are available on request. A rough guide to the cost of an OPU/ICSI session is £3750-£9000 + VAT, depending on the number of frozen embryos produced. Please be aware that an OPU session (costing towards the lower end of the range) could be unproductive with regards to frozen embryos.

We require a £1000 + VAT deposit per mare prior to her arrival for OPU – this deposit is refundable in the case OPU does not go ahead. We also require the Courier and Export Logistic Fees paid prior to the OPU session as we have to pay the suppliers in order to confirm the Courier booking and authorise the Export paperwork.

Service	Price (+VAT)
Health Tests (Approximately, tests taken by your vets)	£200 - £250
Ovum Pick Up (Per session)	£895
Medications (estimate)	£350 - £600
Export Logistics & Preauthorisation*	£625 - £855
Oocyte Export Health Certification	£180
Shipping UK to Europe*	£1000 - £2750
Maturation of Shipped Oocytes **	£195 - £205
ICSI (Per session) **	£515 - £560
ICSI (Additional charge for 2 nd Stallion) **	£345 - £365
Freezable/Transferrable Embryo Produced (Per embryo) **	£525 - £585
Embryo Sexing (Optional, done before freezing) – Not available in every ICSI lab & not suitable for every embryo produced	£365
Stable Livery +/- Turnout	£36.25 per day
Shipping Europe to UK	£POA
Embryo Export Health Certification	£POA
Frozen Embryo Storage (Per month 1-10 embryos)	£24

*Estimate cost confirmed at time of booking and depends on number of mares per OPU date.

**Prices vary depending on which ICSI Lab is used and may even be outside of the range given. Final ICSI lab chosen depends on many factors including lab availability & courier logistics and are not always known until the week before the OPU/ICSI session.