Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

INSTITUTE OF OBSTETRICIANS & GYNAECOLOGISTS
ROYAL COLLEGE OF PHYSICIANS OF IRELAND

CLINICAL PRACTICE GUIDELINE

OVARIAN HYPERSTIMULATION SYNDROME (OHSS) DIAGNOSIS AND MANAGEMENT

Institute of Obstetricians and Gynaecologists,
Royal College of Physicians of Ireland and
Directorate of Strategy and Clinical Programmes,
Health Service Executive

Version 1.0
Guideline No. 9

Date of publication: April 2012
Revision date: April 2014

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Key recommendations

1. Ovulation induction with gonadotrophins should take place only under strict ultrasound monitoring and supervised by fertility specialists.

2. All efforts should be made clinically to reduce the likelihood of OHSS to a minimum. While this condition cannot be eliminated, the use of correct guidelines and careful monitoring with appropriate adjustment of therapy, in women identified at high risk, should ensure it is a rare occurrence.

3. Women attending fertility services and undergoing ovarian stimulation with gonadotrophins should be informed of the risk and symptoms of OHSS. Contact details and methods of obtaining appropriate gynaecological care.

4. Women identified as high-risk prior to treatment and *ALL* women with Polycystic Ovarian Syndrome (PCOS), irrespective of age, should receive antagonist therapy as it is proven to reduce the risk of OHSS by 50%.

5. Hospitals where In Vitro Fertilisation (IVF) is provided should have 24hrs cover for OHSS cases. Centres that provide ART therapy should ensure that specialists provide continuity of care for their women with OHSS particularly when the patients are admitted to a tertiary centre with no IVF services. The responsibility lies with the treating team.

6. Where the risk of OHSS is significant, the cycle of therapy should be cancelled and hCG should not be administered.

7. Elective cryopreservation of embryos ("freeze all") is recommended where the clinical assessment identifies a woman at risk of late OHSS (after oocyte retrieval).

8. Selected cases mild and moderate OHSS can be monitored without hospital admission with the provision of regular visits for clinical and haematological monitoring.

9. Women admitted with severe (OHSS) require intensive monitoring and the care of a specialised team.

10. Women with OHSS should have the severity of their condition assessed and documented. Each case should be classified according to established criteria.

11. Assessment of the woman's condition must take place on a frequent basis as her condition can deteriorate quickly over time.

12. Analgesia using paracetamol or codeine is appropriate. However, non-steroidal anti-inflammatory medications should be avoided.

13. Cases of severe OHSS should have their care under the multidisciplinary team of consultant gynaecologists, consultant anaesthetists and senior nursing / midwifery staff.

14. Elective cryopreservation of embryos in women at high risk of OHSS (more than 25 oocytes collected and/ or E2>15,000 pmol/L) should be offered.

15. hCG luteal support should not be used in women at risk of OHSS.

16. OHSS, particularly early OHSS, should be a rare occurrence in modern clinical practice. As such, "freeze all" policy should be applied where risks are high.

17. All IVF Centres should report all cases of OHSS admitted to a hospital even if they are not attached to one.

1. Purpose and scope

The purpose of this guideline is to improve the management of women undergoing ovulation induction. These guidelines are intended for all healthcare professionals, particularly those in training, who are working in HSE-funded obstetric and gynaecological services. They are designed to guide clinical judgement but not replace it. In individual cases a healthcare professional may, after careful consideration, decide not to follow a guideline if it is deemed to be in the best interests of the woman.

2. Background and introduction

All women undergoing ovarian stimulation should be considered at risk of developing Ovarian Hyperstimulation Syndrome (OHSS). The risk is highest in women receiving gonadotrophin stimulation therapy. From reported and published data, the incidence of OHSS in women undergoing IVF in Ireland is 0.8% (Naasan et al., 2011).

Ovarian hyperstimulation syndrome (OHSS) is an iatrogenic systemic disease. The pathophysiology of OHSS, although not fully understood, is characterised by increased capillary permeability, leading to a leakage of fluid from the vascular compartment with third space fluid accumulation and intravascular dehydration. This may cause hypoalbuminaemia, haemoconcentration, electrolyte imbalance, decreased renal perfusion and oliguria, ascites, pleural/pericardial effusions, which may importantly precipitate significant morbidity and mortality from thrombosis, renal, liver and respiratory failure (ARDS). Ovarian enlargement also creates risk of torsion and cyst rupture.

The occurrence of OHSS is dependent on the administration of human chorionic gonadotrophin (hCG). The condition is self-limiting and usually resolves spontaneously within several days, but may persist for longer duration, particularly in treatment cycles where conception occurs. It represents a supraphysiological response to ovarian stimulation, and is associated with the administration of exogenous gonadotrophins, and very rarely with prescription of clomiphene citrate. Mild forms of the disease are common, and affect up to 33% of IVF cycles, while moderate and severe forms complicate 3-8% of cycles (Delvigne *et al.,* 2002). Deaths after OHSS have been reported (ESHRE EIM Annual reports).

As this is not a common medical condition, yet one with very quick progress and potential lethality, education and communication is particularly important in providing safe and effective care to women with OHSS.

3. Methodology

Medline, EMBASE and Cochrane Database of Systematic Reviews were searched. Searches were limited to humans and restricted to the titles of English language

articles published between 2000 and 2011. Relevant meta-analyses, systematic reviews, intervention and observational studies were reviewed. International guidelines reviewed included: The management of ovarian hyperstimulation syndrome RCOG Guideline (No 5, Sept 2006); Ovarian hyperstimulation syndrome, The Practice Committee of the American Society for Reproductive Medicine (2008), Perinatal Practice Guidelines, South Australia (2008).

Developed by Dr Edgar Mocanu, Consultant Obstetrician Gynaecologist, Sub-Specialist in Reproductive Medicine and Surgery, Human Assisted Reproduction Ireland, Rotunda Hospital. Guideline peer-reviewed by: Professor Michael Turner (HSE), Institute Clinical Advisory Group.

4. Clinical Guidelines

4.1. Terminology

Ovarian hyperstimulation syndrome is classified as early and late in relation to the time of onset (Mathur et al, 2000). The type of OHSS determines the prognosis.

Early OHSS, presenting within 10 days after the administration of hCG reflects excessive ovarian response to gonadotrophin stimulation. The only prevention method is avoiding the administration of hCG and cancelling the IVF treatment. With appropriate management of treatment prior to hCG administration, such cases should rarely occur in current clinical ART practice.

Late OHSS presenting 10 or more days after hCG administration reflects endogenous hCG stimulation from an early pregnancy. Late OHSS is more likely to be severe and to last longer (Mathur, 2000). It can be prevented through elective cryopreservation of embryos although full prevention is impossible.

4.2. Risk factors for OHSS

Risk factors for development of OHSS include:

- polycystic ovarian syndrome
- elevated baseline AMH
- increased ovarian volume and
- high antral follicle count (AFC) on baseline scan
- age <30 years
- low body mass index (BMI)
- previous OHSS
- high doses of FSH
- large number of oocytes collected (>25)
- rapidly rising and/or high oestradiol levels (>17,000 pmol/l)

4.3. Clinical presentation

The clinical symptoms and signs exhibit a continuum of scope and severity, and the classification below incorporates this demonstrated graduation. Progression of illness is recognised when symptoms persist or deteriorate. An important sign is the development of ascites (Mathur, 2005).

Mild	mild abdominal pain
	abdominal bloating
	ovarian size usually < 8 cm
Moderate	moderate abdominal pain
	nausea +/- vomiting
	ultrasound evidence of ascites
	ovarian size 8-12 cm
Severe	clinical ascites (usually hydrothorax)
	Oliguria
	haemoconcentration haematocrit > 45%
	Hypoproteinaemia
	ovarian size > 12 cm
Critical	tense ascites or large hydrothorax
	haematocrit > 55%
	white cell count > 25 000/ml
	oligo/anuria
	Thromboembolism
	acute respiratory distress syndrome

4.4. Initial assessment and investigations

The history should seek to clarify nature, duration and severity of symptoms, and presence of risk factors and co-morbidities. Alternative diagnoses should always be considered.

Examination should incorporate assessment of body weight, abdominal circumference, heart rate and blood pressure, cardiovascular and respiratory systems and the abdomen. Pelvic examination should be avoided, as this may induce cyst rupture. The severity at presentation should be established according to above table and recorded in the chart.

Diagnosis is based on clinical criteria, but the following investigations may aid in ascertaining severity and response to treatment.

Laboratory		Severe OHSS
▪ Full Blood Count	-haematocrit	> 55%
	-white cell count	> 25000/ml
▪ Urea & Electrolytes	-hyponatraemia	>135 mmol/L
	-hyperkalaemia	> 5.0 mmol/L
	-creatinine	> 0.1 mmol/L
▪ Liver Function Tests	-elevated	
	-albumin	< 25 g/L
▪ Coagulation	-elevated fibrinogen	
	-reduced anti-thrombin III	
▪ hCG	-if 10 days post oocyte retrieval	

Radiology

- Ultrasound pelvis

-enlarged ovaries with multiple ovarian cysts
-ascites
-ovarian vessels Doppler studies if suspected ovarian torsion

Other (if clinically indicated)

▪ arterial blood gases	-to diagnose respiratory failure
▪ D-dimers	-elevated
▪ ECG, echocardiogram	-pericardial effusion
▪ Chest x-ray	-pleural effusion
	-interstitial oedema
▪ CTPA or V/Q scan	-definitive diagnosis of pulmonary embolism

4.5. Management

Management of OHSS is supportive and admission to hospital is reserved for cases of severe OHSS. The natural history is one of gradual resolution over 10-14 days, unless pregnancy occurs.

4.5.1. Outpatient management

Generally, severity of symptoms dictate the need for admission, and mild cases can usually be treated on an outpatient basis, as long as resolution is reported and review takes place every 2 – 3 days.

The outpatient management should cover the following:

1. Daily fluid balance
2. Daily weight and girth check
3. Regular bloods and scans

The areas that require coverage during outpatient management include:

Analgesia	use of paracetamol or codeine; avoiding NSAIDS as these may affect renal function
Luteal support	use of progesterone not hCG
Hydration	drinking to thirst, not to excess
Activity	avoidance of strenuous exercise and sexual intercourse, as injury or torsion to enlarged ovaries can occur
Bloods	bloods to be taken at each visit
Ascites	if tense ascites is present and expertise exists, transvaginal drainage could be considered (see inpatient management)

If symptoms do not resolve and severe OHSS develops hospital admission should be considered.

4.5.2. Inpatient management

Women with symptoms of severe OHSS should be referred to and managed in a hospital. The IVF treating team should be involved in the provision of expertise during admission. The following circumstances dictate the need for hospital admission:

- intolerance of oral fluids
- vomiting or diarrhoea
- hypotension
- difficulty breathing, decreased breath sounds
- tense, distended abdomen or peritonism
- thromboembolic event

The inpatient management of OHSS is guided by the severity of the condition, the diagnosis being based on clinical criteria. The management is essentially supportive until the condition resolves spontaneously.

The following parameters should be monitored:

1. Abdominal girth and weight	on admission and daily
2. Blood pressure, pulse, respiratory rate	4 hourly
3. Input/ output balance	indwelling catheter

4. Bloods - Full blood count - Coagulation screen - Urea and electrolytes - Liver function tests	daily
5. Pelvic ultrasound	size of ovaries presence of ascites

Supportive management includes:

Prevention of thromboembolism (TE)
Thromboembolic deterrent stockings (TED's) should be used for all patients admitted with OHSS. In addition, prophylactic anticoagulant therapy with low molecular weight heparin should be commenced (dose to be determined according to patients weight).

Hydration
Fluid management in patients with severe OHSS is a challenge due to the porous nature of the vascular bed. In principle, women that can drink should be encouraged to drink to thirst rather than to excess. If the woman cannot tolerate oral fluids, intravenous (IV) fluids such as normal saline should be commenced. The volume should be titrated using the hematocrit as indicator of the state of hydration. Excess i.v. fluids could make the condition worse. Constant monitoring of the input/output balance is mandatory. Of note, diuretics are contraindicated when haemoconcentration is present as they can precipitate critical OHSS. Diuretics can be used **only** where renal output is decreased on a background of normal haematocrit.

Women with severe haemoconcentration (Hb >14g/dl); Htc >45%) require a bolus of 500 ml fluids intravenous (IV) on admission.

Plasma expanders like HES (Hydroxyethyl starch) 6% solution in isotonic sodium chloride solution can be used at a maximum daily dose of 33ml/kg in 250 - 500 cc per day, in very slow administration to avoid lung congestion.

Albumin administration should be kept for a later stage, once hypo-albuminaemia is proven because of risk of hepatitis, excessive albumin overload, renal function impairment and potential viral contamination. Administration is mainly important during drainage of ascites. Daily dose: 25 - 75g (100 – 300 ml) per day according to the severity of hypoalbuminaemia and the total volume of ascetic fluid drained.

Drainage of ascites
This can be performed both abdominally and vaginally, but always under sonographic guidance (Padilla et al, 1990; Aboulghar et al, 1990).

Paracentesis should be considered:
- In women with severe abdominal distension
- In women with dyspnoea
- IN women with renal impairment (oliguria persists despite adequate volume replacement).

Paracentesis results in increased venous return, increased cardiac output, improved diuresis and renal function, improved lung function.

The following should be followed:

- Drainage will take place abdominally or vaginally under ultrasound guidance.
- Rate of drainage is very slow to prevent cardiovascular collapse (maximum 2 l within 12h)
- Blood pressure and pulse need continuous monitoring.
- Use pigtail catheter and cover patient with antibiotics.

Pain relief
Paracetamol or opiates (oral, i.v.) can be routinely used for pain management. Nausea and vomiting is treated with antiemetics.

4.5.3. Criteria for intensive care admission

Increasing abdominal pain, oliguria, weight gain, increased girth measurement and breathlessness point to worsening (critical) OHSS and a multidisciplinary team approach is required. As such, the indications for admission for critical nursing care in ICU in a general hospital are:

1) Renal compromise (oligoanuria) or failure to respond to fluid management or paracentesis as patient may require dialysis
2) Respiratory compromise not responding to diuresis or paracentesis, patient may require ventilation
3) Clinical appearance of acute respiratory distress syndrome (ARDS)
4) Thromboembolism
5) Tense ascites or large hydrothorax
6) Haematocrit > 55%
7) WCC < 25,000/ml

4.6. OHSS prevention

OHSS prevention is a priority and good medical practice in current practice of ART. Prevention can be optimized by initially recognizing risk factors and individualizing ovulation induction regimens, using the minimum dose and duration of gonadotrophin therapy necessary to achieve the therapeutic goal.
The only means to prevent OHSS is not to administer hCG and continue down-regulation until a period ensues.

Risk factors can be identified prior or *during treatment* (Mocanu et al, 2007):

1. The diagnosis of polycystic ovarian syndrome (PCOS), particularly slim patients
2. High antral follicle count (AFC) or anti-mullerian hormone (AMH).
3. Previous history of over-response or OHSS
4. *More than 6 follicles developing in each ovary*

5. *Fast rising oestradiol levels (levels on day 7 of stimulation over 7,000 pmol/L)*
6. *Bloatedness during stimulation*
7. *Oestradiol level over 17,000 pmol/L on day of hCG*
8. *More than 25 oocytes collected*

Patients identified as high-risk prior to treatment and ALL women with PCOS irrespective of age should receive antagonist therapy as it is proven to reduce the odds of OHSS by 43% (95% CI 0.33 to 0.57) (Al-Inany et al, 2011).

During ovarian stimulation, preventative measures to be implemented include:

1. Cancellation of cycle of treatment and continuation of downregulation until next period.
2. Coasting (withholding the FSH injections) and monitoring follicular development as well as E_2 levels. Triggering with a low dose hCG only is E_2 levels safe.
3. Withholding the ovulatory trigger (hCG), if ovarian response is significantly high (number of follicles and oestradiol level).
4. Reducing the dose of the hCG trigger to 5,000 IU instead of the standard 10,000 IU.
5. Using Cabergoline 0.5mg daily post oocyte retrieval where indicated.
6. Using progesterone and not hCG for luteal phase support.
7. Intravenous administration of prophylactic 25% albumin (20-50g) at the time of oocyte retrieval in high-risk cases (e.g. where oestradiol levels are markedly elevated or history of previous OHSS episode exists).

The practice of cryopreservation of all embryos resulting from the cycle ("freeze all" policy) has made ART treatment safer. It should be routine for al cases where the estimated risk of OHSS is high as it reduces the risk of late (pregnancy induced) OHSS. Furthermore, frozen cycles of therapy do not result in OHSS.

Owing to the morbidity and potential mortality pertaining to OHSS, and its progressive nature, it is crucial that women attending an assisted conception unit be provided with written information about OHSS including risks, symptoms, and a 24-hour contact number with prompt access to a suitably informed professional with expertise in the diagnosis and management of OHSS.

Women should be reassured that pregnancy may continue normally despite OHSS, and there is no evidence of an increased risk of congenital abnormalities.

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6. Implementation strategy

- Distribution of guideline to all members of the Institute and to all maternity units.
- Implementation through HSE Obstetrics and Gynaecology programme local implementation boards.
- Distribution to other interested parties and professional bodies, including Irish the Fertility Society.
- Distribution to Emergency Departments.

7. Key perfromance indicators (KPI's)

KPI's should be reported by treating hospitals and all licensed IVF Clinics. They should include:

i. Number and type of OHSS cases admitted to hospital
ii. Number of cases requiring admission to High Dependancy Unit (HDU)
iii. Number of cases requiring transfer to Intensive Care Unit (ICU)
iv. Deaths related to OHSS

8. Qualifying statement

These guidelines have been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. Clinical material offered in this guideline does not replace or remove clinical judgement or the professional care and duty necessary for each pregnant woman. Clinical care carried out in accordance with this guideline should be provided within the context of locally available resources and expertise.
This Guideline does not address all elements of standard practice and assumes that individual clinicians are responsible for:

- Discussing care with women in an environment that is appropriate and which enables respectful confidential discussion.
- Advising women of their choices and ensure informed consent is obtained.
- Meeting all legislative requirements and maintaining standards of professional conduct.
- Applying standard precautions and additional precautions, as necessary, when delivering care.
- Documenting all care in accordance with local and mandatory requirements.

Appendices

Appendix 1

Classification of Ovarian Hyperstimulation Syndrome (Mathur R *et al.,* 2005)

CLASSIFICATION OF SEVERITY OF OHSS	
Grade	**Symptoms**
Mild OHSS Usually managed at home. Gynaecological ward nursing if in hospital	Abdominal bloating Mild abdominal pain On ultrasound examination ovarian size usually 8cms.
Moderate OHSS Gynaecological ward nursing care	Moderate abdominal pain Nausea+/-vomiting Ultrasound evidence of ascites Ovarian size 8-12 cms
Severe OHSS High Dependency Unit (HDU) Nursing Care	Clinical ascites, hydrothorax Oliguria Haemoconcentration haematocrit > 45% Hypoproteinaemia Ovarian size >12 cms
Critical OHSS Intensive Nursing Care (ICU)	Tense ascites or large hydrothorax Haematocrit >55% White cell count >25,000/ml Olig/anuria Thromboembolism Acute respiratory distress syndrome Renal failure

Appendix 2 (adapted from RCOG website)

PATIENT INFORMATION LEAFLET

What is OHSS?
Ovarian hyperstimulation syndrome (OHSS) is a potentially lethal complication of fertility treatment, particularly of in vitro fertilisation (IVF) treatment.

What are the symptoms of OHSS?
The symptoms are abdominal swelling or bloating because of enlarged ovaries, nausea
and, as the condition gets worse, vomiting.

• Mild OHSS – mild abdominal swelling or bloating, abdominal discomfort and nausea.

• Moderate OHSS – symptoms of mild OHSS but the swelling and bloating is worse because fluid is building up in the abdomen. There is abdominal pain and vomiting.

• Severe OHSS – symptoms of moderate OHSS plus extreme thirst and dehydration because fluid is building up in the abdomen, passing very small amounts of urine, dark in colour (concentrated), difficulty breathing because of build-up of fluid in the chest and rarely the development of pain in one leg or lungs (clot formation). If you develop any of the symptoms, seek medical help immediately.

What causes it?
Fertility drugs stimulate the ovaries to produce many egg sacs (follicles). Sometimes there is an excessive response to fertility drugs and this causes OHSS. Over-responding ovaries enlarge and release chemicals into the bloodstream that make blood vessels leak fluid into the body. Fluid leaks into your abdomen and, in severe cases, into the space around the heart and lungs. OHSS can affect the kidneys, liver and lungs. A serious, but rare, complication is a blood clot (thrombosis). A very small number of deaths have been reported.

Who gets it?
Mild symptoms are common in women having IVF treatment. As many as one in three (33%) women develop mild OHSS. About one in 20 (5%) women develop moderate or severe OHSS.

The risk of OHSS is increased in women who:
• have polycystic ovaries
• are under 30 years and thin
• have had OHSS previously
• get pregnant, particularly if this is a multiple pregnancy (twins or more).

How long does OHSS last?
Most of your symptoms should usually resolve in a few days. If you have mild OHSS, you can be looked after at home.

• If your fertility treatment does not result in a pregnancy, OHSS will get better by the time your period comes.
• If your fertility treatment results in a pregnancy, OHSS can get worse and last up to a few weeks or longer.
• If the choice of freezing all embryos was taken, OHSS is milder than if you had a transfer and became pregnant.

What should I do if I have mild OHSS?
• Make sure you drink clear fluids at regular intervals, **to thirst.** If you have pain, take ordinary paracetamol or codeine (no more than the maximum dose). You should avoid anti-inflammatory drugs (aspirin or aspirin-like drugs such as ibuprofen), which can affect how the kidneys are working.
• Even if you feel tired, make sure you continue to move your legs.

When should I call for medical help?
Call for medical help if you develop any of the symptoms of severe OHSS, particularly if you are not getting any pain relief.
• If you start to vomit, have urinary problems (dark urine, very small amount of urine passed), chest pain or any difficulty breathing contact your fertility clinic/ hospital immediately.
• If you are unable to contact your fertility clinic, contact:
    - your general practitioner (GP)
    - the A&E department at your local hospital

When will I need to stay in hospital?
If your symptoms get worse, or if you have the symptoms of severe OHSS, your doctor may advise you to be admitted to hospital. At the hospital, the doctor will carry out blood tests and ultrasound.

If you are vomiting, you may need a drip to replace the fluids you have lost. The fluid will help to keep you hydrated and may contain sugar and carbohydrates (for energy), minerals and chemical elements (for regulating and maintaining the organs in your body).

What should happen at the hospital?
There is no specific test that can diagnose OHSS. A diagnosis is made on the basis of your symptoms.

Your doctor will ask you to describe your symptoms and will examine you. In addition, your doctor may:
• ask about how much urine you are passing and whether it is darker than normal
• take an initial measurement of your waistline to see if the fluid is building up or reducing
• check your weight to confirm if fluid is building up or reducing
• scan your ovaries to measure how big they are and whether there is any fluid build-up in your abdomen

• take a blood test to measure how concentrated your blood is and how well your kidneys are working.

Your doctor will also check for other problems that can cause similar symptoms of pain and abdominal swelling.

If you are deemed well enough to stay at home, regular check-ups are usually performed.

What is the treatment for OHSS?
There is no treatment that can reverse OHSS. OHSS will get better with time, so treatment is to help symptoms and prevent problems. This includes:
- pain relief such as paracetamol or codeine
- anti-sickness drugs to help reduce nausea and vomiting
- an intravenous drip to rehydrate you
- support stockings and heparin injections to prevent a clot in the leg or lungs (thrombosis)
- a catheter in your bladder to monitor the output of urine
- a procedure known as a paracentesis may be offered if your abdomen is tense and swollen because of fluid build-up. This is when a thin needle or tube is inserted into the abdomen to remove fluid.

Is my baby at risk if I have OHSS?
There is no evidence of problems in the baby as a result of OHSS.

Is there anything else I should know?
• Your fertility clinic should provide you with full written information about your fertility treatment, including the risk of OHSS and a 24-hour helpline number.
• If you develop OHSS, your fertility clinic will advise changing from hCG (human chorionic gonadotrophic) injections to progesterone injections or suppositories. The hCG injections can make OHSS worse.
• If you have mild to moderate OHSS, your ovaries are enlarged and painful. You should avoid having sex or doing strenuous exercise to avoid injury to the ovaries.
• A few women can develop OHSS as an after-effect of other types of fertility treatment.

Appendix 3

OHSS DAILY MONITORING DATA (To be detailed and adapted by each Unit)

Parameter	**Day/ Date**	**Day/ Date**	**Day/ Date**	**Day/ Date**
Weight				
Abdominal girth				
BP				
Pulse				
Respiratory rate				
Input				
Output				
Balance				
FBC				
Coag Screen				
Urea and electrolytes				
Liver function tests				
Pelvic ultrasound				
Abdomen				

Appendix 4

Glossary of terms

AMH	Anti Mullerian Hormone
AFC	Antral Follicle Count
BMI	Body Mass Index
CTPA	Computed Tomographic Pulmonary Angiography
CXR	Chest X-ray
E_2	Oestradiol
ECG	Electrocardiogram
hCG	human Chorionic Gonadotropin
HDU	High Dependency Unit
HES	Hydroxyethyl Starch
IVF	In Vitro Fertilisation
KPI	Key Performance Indicators
OHSS	Ovarian Hyperstimulation Syndrome
PCOS	Polycystic Ovarian Syndrome
V/Q scan	Ventilation Perfusion Scan
WCC	White Cell Count