

MATERNITY SERVICES DIVISION

Approved by Safety & Quality Committee
July 2022

Estimating Due Date (EDD)

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

- Accurate estimation of gestation and EDD
- Consistency among staff in determining EDD

2. PATIENT

- Pregnant woman

3. STAFF

- Medical, midwifery and nursing staff

4. EQUIPMENT

- EDD calculator

5. CLINICAL PRACTICE

- Determine method of conception, first day of the woman's last menstrual period (LMP) and length of menstrual cycle:
 - **Spontaneous conception:**
Certain first day of LMP with cycle length 21 to 35 days (see appendix 1)
 - certain LMP and regular cycle, calculate EDD by adding 280 days^{1,9}
 - where the cycle length is greater than 28 days add one day for each day above 28
 - where the cycle length is less than 28 days subtract one day for each day below
 - **Spontaneous conception:**
Uncertain first day of LMP, irregular cycle, ultrasound Scan (USS) discrepancy or cycle length <21 or >35 days (see appendix 2)
 - advise woman, who is unsure of her LMP or length of menstrual cycle, to have an ultrasound (US) between 8-10⁺⁰ weeks gestation as this is the most accurate time to determine gestational age (GA). Recommend US be performed if not already
 - obtain ovulation tracking details, if used (see appendix 2)
 - have all clinical information available (LMP, cycle length, ultrasounds etc.) and use to determine EDD
 - discuss with midwifery educator/senior midwife, obstetric senior registrar, consultant or RHW sonologist if assistance is needed
 - see appendix 4 and 5 for more information on crown rump length (CRL) and combined biparietal diameter (BPD), head circumference (HC), abdominal circumference (AC), femur length (FL) estimation
 - **Fertility assisted conception** (see appendix 3)
 - **Ovulation induction:** date of ovulation is equivalent to day 14 of cycle so:
 - EDD = ovulation (trigger) date + 266 days (or 38⁺⁰ weeks)
 - If US discrepancy > 6 days needs consultation as per appendix 2
 - **In-vitro fertilisation (IVF) fresh cycle:**
 - date of oocyte collection is equivalent to day 14 of cycle
 - EDD = date of embryo/blastocyst transfer (ET/BT) + 266 days – (age of embryo/blastocyst) days
 - IVF frozen cycle:
 - EDD = date of ET/BT + 266 days – (age or embryo/blastocyst) days

- If US discrepancy > 6 days needs consultation as per appendix 2
- If woman does not agree with date, book for face-to-face appointment with obstetric team
- Ensure EDD consistent on antenatal card and eMaternity
- Ensure clear documentation and rationale used to arrive at EDD is documented in eMat

6. DOCUMENTATION

- Medical record
- Antenatal card

7. EDUCATIONAL NOTES

- An accurate, optimal menstrual history is when the woman is certain of her LMP, has a regular menses, has had no exposure to hormonal contraception and no unusual vaginal bleeding^{5,6}. Age, parity, smoking and body mass index (BMI) are factors which can influence the accuracy of the EDD when using LMP^{2,6}
- A crown rump length (CRL) measurement of less than 84mm in the first trimester has been shown to be more accurate in estimating the EDD than the LMP (regardless of certainty) and the HC/BPD measurement in a 2nd trimester USS^{1,2}
- Some recent research suggests adding 282 to the LMP is most accurate way of estimated due date^{1,9}, however in practice the majority of electronic application-based approaches use 280, therefore, to minimise confusion 280 days is used most frequently
- The accuracy of CRL dating is approximately:
 - ± 3.5 days when calculated in the early first trimester⁶
 - ± 7.0 days when calculated towards the end of the first trimester⁶
- The use of routine US for dating GA reduces the rates of induction of labour for prolonged pregnancy^{2,8} however quality of US, type of US (trans-vaginal or trans-abdominal), woman's BMI and gestational age can all have an impact on the reliability of the scan
- Paper GA wheels have been shown to be inaccurate compared to electronic GA calculators⁷

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Induction of labour guideline for women with a post-dates low risk pregnancy
- Antenatal visits provided in the community

9. RISK RATING

- Low

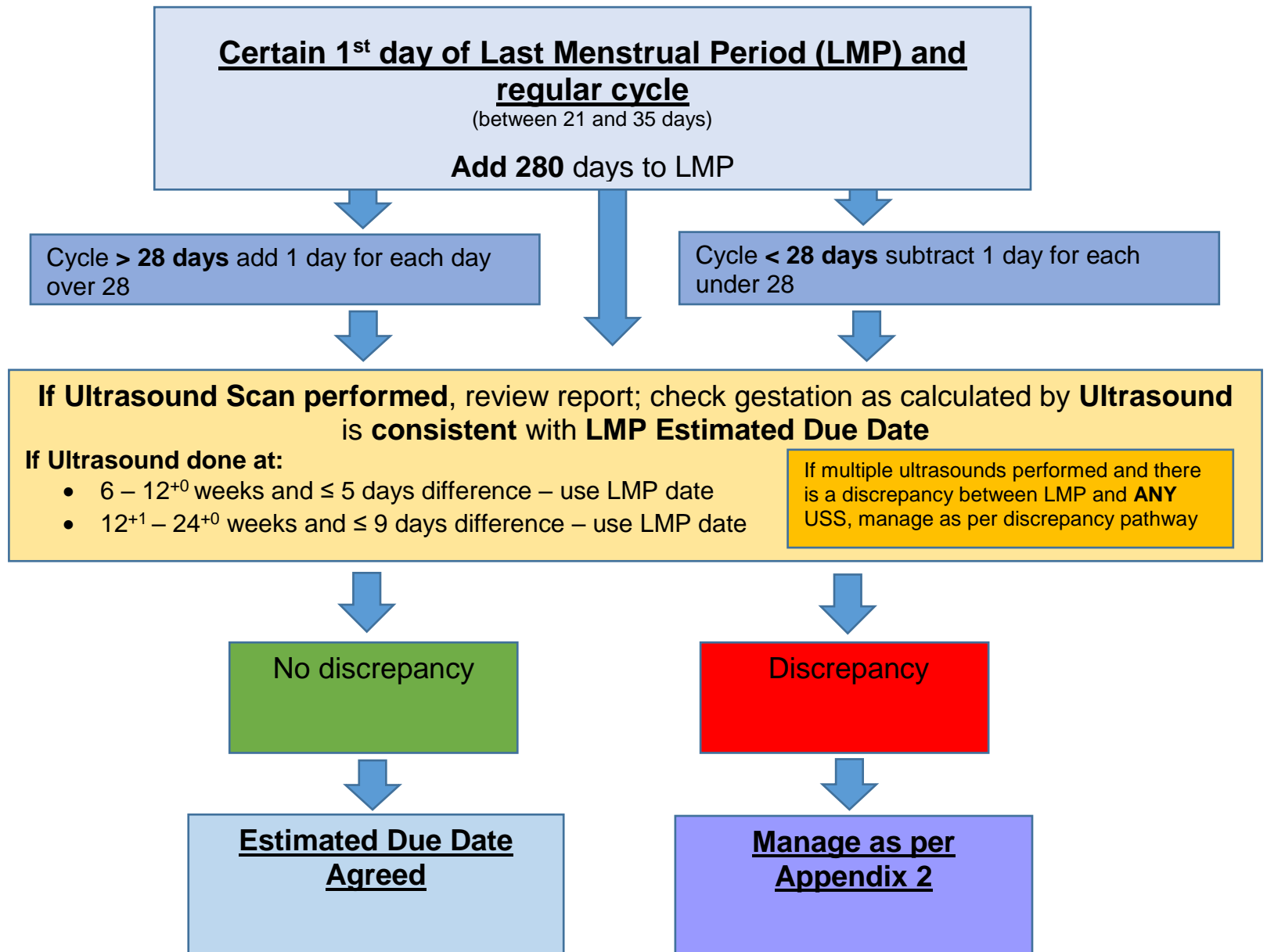
10. NATIONAL STANDARD

- Standard 2 - Partnering with Consumers
- Standard 5 – Comprehensive Care

11. REFERENCES

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4. King Edward Memorial Hospital. Clinical Practice Guideline: Antenatal care schedule. Perth: Department of Health Western Australia. 2016. Health History; p. 4.
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6. Norton ME, Scout LM, Feldstein VA. Callen's Ultrasonography in Obstetrics and Gynecology. 6th ed. Philadelphia: Elsevier; 2017. p. 118-25.
7. Chambliss LR, Clark SL. Paper gestational age wheels are generally inaccurate. American Journal of Obs and Gyn. 2014 Feb; 219(2):145.
8. Bennet KA, Crane JM, O'Shea MD, Lacelle J, Hutchens D, Cope JA. First trimester ultrasound screening is effective in reducing post term labour induction rates: a randomised controlled trial. American Journal of Obs and Gyn. 2004 April;190(4):1077-81.
9. Nguyen TH, Larsen T, Engholm, Møller H. Evaluation of ultrasound-estimated date of delivery in 17 450 spontaneous singleton births: do we need to modify Naegele's rule? USS in Obs and Gyn. 2002 Dec;14(1):23-28.
10. Kessler J, Johnsen SL, Ebbing C, Karlsen HO, Rasmussen S, Kiserud T. Estimated date of delivery based on second trimester fetal head circumference: A population-based validation of 21 451 deliveries. Acta Obs and Gyn Scand. 2019 Jan;98(1):101-105



Uncertain 1st day of LMP or Irregular cycle or Ultrasound discrepancy or Cycle length <21 or >35 days
Advise **ultrasound** if not already performed
(USS performed at 8⁺¹ – 10⁺⁰ weeks are probably the most accurate for estimating GA)

**Is ovulation date known and certain from self-tracking?



Yes



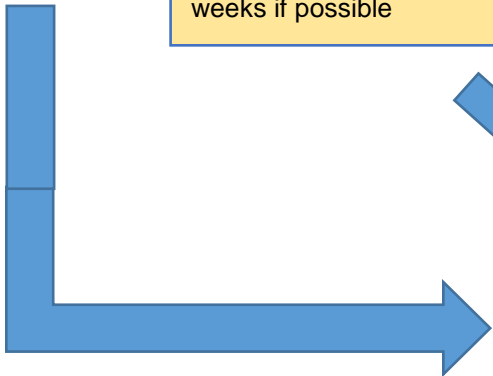
No



Add 266 days to give EDD
Is this EDD consistent with USS?



Yes



Seek advice from **midwifery educator/senior midwife, obstetric senior registrar, consultant or RHW sonologist** to determine Estimated Due Date (EDD)

➤ Have all available ultrasound reports and relevant clinical information available

Midwifery educator/senior midwife, obstetric clinician or sonologist to use **all clinical Information with Ultrasounds** to arrive at EDD.

Consider:

- quality of ultrasound
- gestational age performed
- Transvaginal or Transabdominal
- Maternal BMI

Ultrasound 6-8⁺⁰ weeks:
Use CRL
Quality is very important, consider repeat USS 8-10 weeks if possible

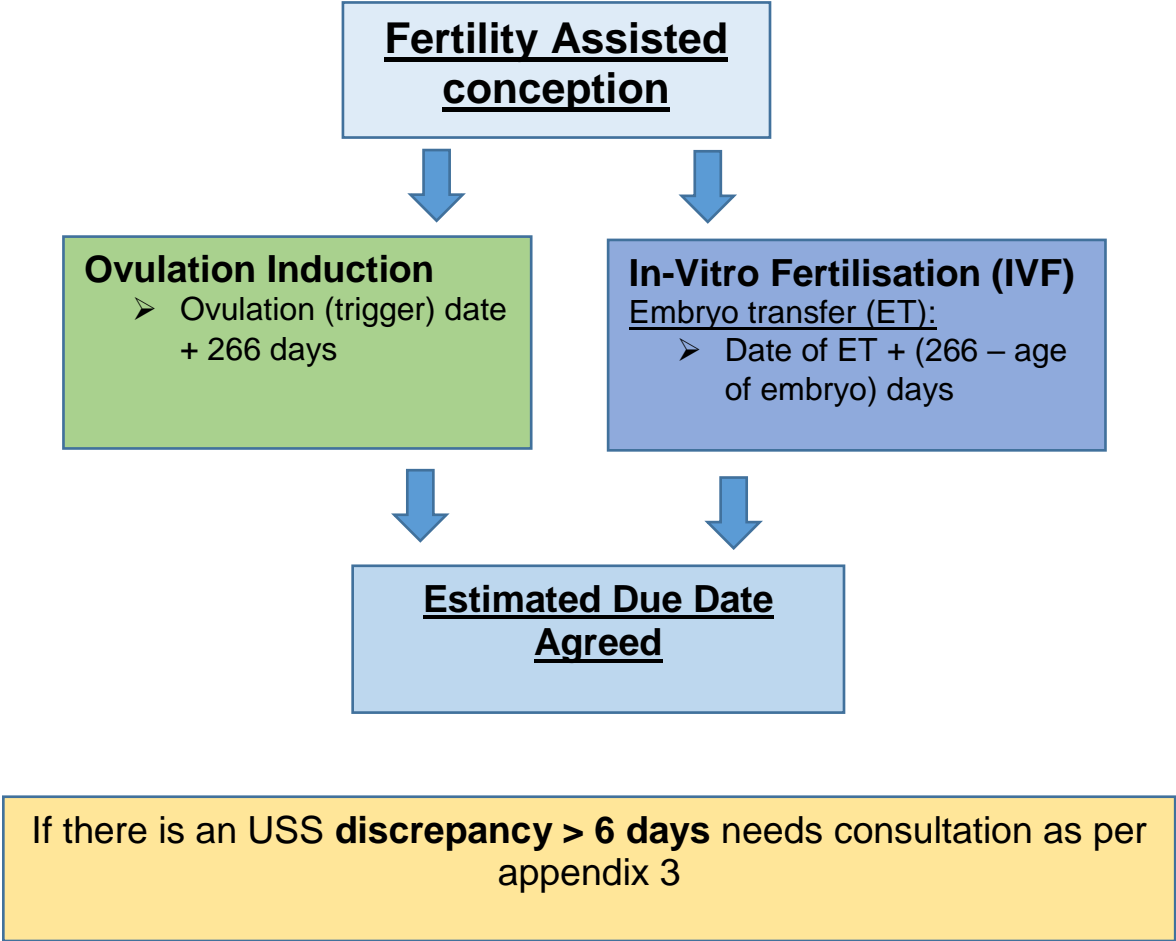
Ultrasound 8⁺¹-11⁺⁰ weeks:
Use CRL
(see appendix 4 for CRL to GA)

Ultrasound 11⁺¹- 14⁺⁰ weeks:
composite of BPD and CRL
(see appendix 5 for BPD, CRL to GA)

Ultrasound > 14 weeks:
BPD, HC, AC and FL used
(see appendix 5 for GA)

Estimated Due Date

- Communicate with Woman the EDD
 - confirm the woman **agrees** with EDD
 - If woman **does not agree**, arrange face to face obstetric consultation
- Ensure EDD consistent on Antenatal card and eMaternity
- Document clearly rationale used to arrive at EDD



Crown-Rump Length Measurements for an Australian Population					
Gestation (weeks/days)	CRL (mm)	Gestation (weeks/days)	CRL (mm)	Gestation (weeks/days)	CRL (mm)
5.2	1	8.3	20	11.4	52
5.3	2	8.4	21	11.5	55
5.4	3	8.5	22	11.6	56
5.5	3	8.6	22	12.0	57
5.6	4	9.0	23	12.1	58
6.0	4	9.1	24	12.2	60
6.1	5	9.2	26	12.3	61
6.2	6	9.3	27	12.4	63
6.3	7	9.4	28	12.5	64
6.4	8	9.5	29	12.6	65
6.5	9	9.6	31	13.0	68
6.6	10	10.0	34	13.1	70
7.0	11	10.1	36	13.2	72
7.1	11	10.2	37	13.3	74
7.2	12	10.3	38	13.4	76
7.3	12	10.4	39	13.5	77
7.4	13	10.5	39	13.6	80
7.5	14	10.6	40	14.0	81
7.6	15	11.0	44	14.1	84
8.0	17	11.1	45	14.2	85
8.1	18	11.2	47	14.3	86
8.2	19	11.3	48	14.4	87

Adapted from Ultrasonic Fetal Measurements – new Australian standards for the new millennium. Aust. NZ J. Obstetrics & Gynaecology August 2000, vol.40.No.3.

Australasian Society for Ultrasound in Medicine
Ultrasonic Fetal Measurement Standards for an Australian Population

Compiled by Dr Susan Campbell Westerway – University of Sydney

Gestation (weeks)	BPD (mm)	OFD (mm)	Head circ. circ.(mm)	Abdominal Circ.(mm)	Femur (mm)	Humerus (mm)	Gestation (weeks)
+/-2 standard deviations shown in brackets.							
11	16 (2.0)	21 (2.0)	59 (15)	52 (10)	8 (2.0)	8 (3.0)	11
12	20 (4.0)	24 (2.0)	70 (15)	63 (10)	10 (2.5)	9 (2.0)	12
13	24 (4.0)	29 (3.0)	84 (15)	74 (10)	11 (2.5)	11 (3.0)	13
14	28 (4.0)	34 (3.0)	96 (15)	84 (10)	15 (3.0)	14 (4.0)	14
15	31 (4.0)	38 (3.0)	108 (15)	96 (10)	17 (3.5)	17 (5.5)	15
16	36 (5.0)	46 (3.0)	128 (15)	106 (10)	22 (4.0)	21 (4.0)	16
17	39 (5.0)	50 (3.0)	141 (15)	120 (15)	25 (4.0)	25 (5.0)	17
18	42 (4.0)	54 (3.5)	151 (20)	131 (15)	28 (5.0)	27 (5.5)	18
19	45 (5.0)	57 (3.5)	160 (20)	140 (15)	30 (5.0)	29 (5.0)	19
20	47 (4.0)	61 (3.5)	170 (20)	151 (15)	32 (6.0)	31 (5.0)	20
21	49 (4.0)	63 (4.0)	176 (20)	164 (20)	34 (6.0)	32 (6.0)	21
22	52 (5.0)	68 (3.5)	188 (20)	176 (20)	37 (5.0)	35 (6.0)	22
23	57 (5.0)	76 (4.0)	210 (20)	186 (20)	43 (5.0)	38 (4.0)	23
24	60 (6.0)	79 (4.0)	220 (20)	201 (20)	45 (4.0)	40 (6.0)	24
25	64 (6.0)	82 (4.5)	231 (20)	212 (20)	48 (5.0)	43 (5.0)	25
26	67 (4.0)	84 (4.5)	238 (20)	223 (25)	49 (5.0)	44 (4.0)	26
27	68 (5.0)	86 (4.5)	250 (20)	230 (25)	50 (5.0)	47 (4.0)	27
28	72 (4.0)	95 (5.0)	263 (20)	242 (25)	54 (4.0)	50 (5.0)	28
29	75 (4.0)	97 (5.5)	269 (25)	259 (25)	55 (5.5)	51 (5.0)	29
30	76 (4.0)	98 (5.5)	274 (25)	262 (25)	58 (6.0)	52 (5.0)	30
31	80 (6.0)	101 (5.0)	284 (25)	272 (30)	59 (5.5)	54 (5.0)	31
32	81 (4.0)	102 (5.0)	288 (25)	283 (30)	62 (6.0)	56 (5.0)	32
33	84 (6.0)	107 (5.5)	300 (25)	294 (30)	65 (4.0)	57 (6.0)	33
34	86 (6.0)	108 (5.5)	305 (25)	305 (30)	66 (4.0)	59 (5.5)	34
35	88 (6.5)	109 (5.5)	310 (25)	315 (30)	67 (6.0)	60 (6.0)	35
36	90 (6.0)	112 (5.5)	317 (25)	325 (35)	69 (6.0)	62 (5.0)	36
37	92 (6.5)	113 (6.0)	321 (25)	333 (35)	72 (5.0)	63 (6.0)	37
38	93 (6.0)	116 (5.5)	328 (25)	342 (35)	73 (5.5)	64 (6.0)	38
39	95 (8.0)	119 (6.0)	336 (25)	356 (35)	75 (6.0)	65 (5.5)	39
40	96 (8.0)	120 (6.0)	340 (25)	362 (35)	76 (4.0)	66 (6.0)	40
41	98 (8.0)	122 (6.0)	344 (25)	367 (35)	77 (5.0)	68 (6.0)	41

This cross sectional study collected 11,600 measurements from 3,800 women representing 70 nationalities. Figures are based on completed weeks of gestation.