March 22, 2021

RE: **2021 Updates -** Early prenatal care and documentation

Dear Primary Care Providers,

Thank you for your ongoing commitment to providing appropriate and complete prenatal care.

Attached is the 2021 update to our prenatal care summary. The checklist and relevant annexes (B, D, H, K & L) attached hereto have been updated as per new guidelines and recommendations.

For quick reference, the following has been updated:

- **COVID-19 vaccination.**
  Please use the following PCMCH (Provincial Council for Maternal and Child Health) handout when counselling pregnant or breastfeeding women about the COVID-19 vaccine.

- **Zofran (Ondansetron) is no longer recommended in pregnancy.**
  As per Health Canada's most recent update, Ondansetron use is no longer recommended in pregnancy due to risk of orofacial malformations.

- **Low dose ASA for pre-eclampsia prevention.**
  To reflect our current practices, a personal history of gestational hypertension (without pre-eclampsia) has been added as a criterion for ASA initiation.

- **Hepatitis C screening in pregnancy.**
  As per the CDC's recommendation, anti-HCV screening is recommended in all pregnant women.

- **Folic acid supplementation.**
  Maternal history of advanced liver disease or renal dialysis have been added as moderate risk factors indicating the need for 1.0mg of folic acid supplementation.

Sincerely,
Temiskaming Maternity Care Group

April 1, 2020

RE: Early prenatal care and documentation

Dear Primary Care Providers,

As part of our commitment to providing quality care to patients, the group of maternity care providers from Temiskaming Hospital have prepared the following document to promote optimal prenatal care and documentation.

We recognize that early prenatal care is an important component of primary care. We also recognize that geographical limitations and frequently evolving guidelines can make providing this care challenging. Temiskaming Hospital provides approximately 250-300 deliveries per year. The group of maternity care providers has expanded recently, and with that, an increasing desire to optimize and standardize care. We depend on the excellent care that our colleagues provide to these patients, as most of them do not enter our care until the third trimester. We are dedicated not only to our patients, but to our colleagues, and hope that the following document will simplify and standardize prenatal care in our area.

In this document, you will find an easy-to-follow checklist of investigations and milestones divided by trimester in pregnancy. You will also find summarized versions of current guidelines and recommendations on certain high yield topics in prenatal care. Our hope is that this document will be an additional tool to use in conjunction with the Ontario Prenatal Records (OPR). We recommend that each referring provider ensure that their facility has access to the most current version of the OPR. Each section of the OPR is vital, and we recommend diligently completing and documenting all relevant and required information.

Attached hereto, you will find the following:

Checklists – Investigations and milestones by trimester
Annexe A – Determining EDD
Annexe B – Routine investigations and unnecessary testing
Annexe C – GBS bacteriuria and urine dips
Annexe D – Criteria for ASA in high risk patients
Annexe E – Prenatal Screening
Annexe F – Indications for referral
Annexe G – Weight Management in pregnancy
Annexe H – Nausea and Vomiting in Pregnancy
Annexe I – Mental Health and Pregnancy
Annexe J – Substance Use in Pregnancy
Annexe K – Vaccinations in pregnancy
Annexe L – Folic Acid Supplementation in Pregnancy

Sincerely,
Temiskaming Maternity Care Group

Checklists – Investigations and milestones by trimester

To be completed with each visit

Investigations	✓
Complete and update antenatal records	
Weight ***See Annexe G for weight management**	
Blood pressure	*If elevated → TruBP (av. 3 readings) q15 mins x 2 on same arm
Fetal heart rate (normal 110-160 bpm)	
Symphysis-fundal height (≥ 25 weeks)	

First Trimester (0-14 weeks GA; Prenatal visits every 4 weeks)

Investigations	Completion date by GA	✓
Begin and complete antenatal records including medical and surgical Hx	First appointment	
Pap test if not up to date	First appointment	
CBC	First appointment	
Blood group & antibody screen	First appointment	
Serologies: HBsAg, HIV, VDRL, Rubella, anti-HCV	First appointment	
Urine C&S + R&M (or dip) ***See Annexe C**	First appointment	
Urine / cervical chlamydia and gonorrhea	First appointment	
Dating ultrasound ***See Annexe A for determining EDD**	If certain of LMP: coordinate with prenatal screening If uncertain of LMP: first appointment	
Prenatal Screening ***See Annexe E for options by GA**	Discussed at first appointment	

Medications		
ASA 162mg for high risk pts ***See Annexe D for inclusion criteria**	12 – 28 weeks **Optimally < 16 weeks**	
Folic acid	Pre-conception if indicated	
Prenatal vitamin	Pre-conception ideally	

Second Trimester (14-28 weeks GA; Prenatal visits every 4 weeks)

Investigations	**Completion date by GA**	✓
Anatomy ultrasound	18 – 22 weeks	
Gestational diabetes screening **50g OGCT if positive → 75g OGTT**	24 – 28 weeks	
Repeat CBC	24 – 28 weeks	
Repeat antibody screen (if Rh -)	24 – 28 weeks	

Medications		
Pertussis booster (Tdap) ***See Annexe K**	21 – 32 weeks	
Flu vaccine ***See Annexe K**	When available	
RhoGAM / WinRho injection if Rh -	26 – 28 weeks *Consider RhoGAM for Rh – women with miscarriages, abortions, falls / trauma prior to 28 weeks	

Third Trimester (28-42 weeks)

Prenatal visits every 2 weeks from 28-36 weeks then every week > 36 weeks until delivery

Investigations / Milestones	**Completion date by GA**	✓
Temiskaming Hospital Pre-admission package	28 weeks	
Referral to OB provider ***See Annexe F for early referral considerations**	24-26 weeks Sooner if needed / concerns	
Additional U/S for concerns regarding GDM, growth, hypertension	As indicated	

Annexe A – Determining EDD

Accurately determining estimated date of delivery (EDD) is vital in the 1st trimester. Accurate EDD has implications for prenatal screening tests, timing for future investigations, size/growth discrepancies, post-dates induction planning, and scheduling caesarean-sections.

Please see SOGC Clinical Practice Guideline *Determination of Gestational Age by Ultrasound*. A summary of SOGC recommendations on determining EDD is noted below.

Ultrasound dating is more accurate than certain LMP for determining EDD.
Therefore, all women should be offered a 1st trimester ultrasound to accurately determine EDD.

First trimester crown-rump length (CRL) is the best parameter to determine EDD.

The optimal time for a dating ultrasound is **between 8 and 13 weeks**.

If there are multiple first trimester ultrasounds, the earliest measurable CRL > 10mm and > 7w0d should be used to determine EDD.

If a 1st trimester dating ultrasound was not obtained, next earliest ultrasound parameters will be used to determine EDD.

If the patient is certain of her LMP and has regular cycles, it is reasonable to time first trimester dating ultrasound to take place with prenatal screening (timing discussed in Annexe E).
If the patient is uncertain of her LMP, please offer early dating ultrasound to accurately time prenatal screening and further investigations.

Annexe B – Routine Investigations and Unnecessary Testing

As indicated in the Ontario Prenatal Records, as well as the checklist above, the following bloodwork is indicated in the first trimester.

- CBC for Hgb and Plt
- Blood group (ABO / Rh) and antibody screen
- Serologies: Hepatitis B surface antigen (HBsAg), HIV, VDRL and Rubella, anti-HCV.
- Urine or cervical chlamydia and gonorrhea
- Urine culture
- Baseline urine dip or urinalysis for protein

In **at risk**, or **symptomatic** patients, testing for the following infectious aetiologies should be considered:

- Varicella (if exposed and unsure of immunity)
- CMV
- Parvovirus
- Zika
- Toxoplasmosis
- Bacterial vaginosis: consider testing in patients with history of previous preterm labour / delivery / rupture of membranes.
- Consider Vitamin B12 levels if clinically indicated and supplement if deficient
- Consider Ferritin if Hgb < 110.

Unless clinically indicated, the following investigations are not required for a healthy, uncomplicated pregnancy. If these are ordered, please do not include them in the referral package unless relevant to care.

- TSH, free T4 (consider if clinical suspicion or risk factors)
  - With patients with pre-existing hypothyroidism, check TSH in early pregnancy and repeat q4-6 weeks. Thyroxine dosage may need to be increased by 30% as early as 4-6 weeks GA.
- LFTs
- HbA1c (may be considered in 1st trimester if risk factors for DM2)
- Electrolytes, BUN, Cr
- Folic acid

Annexe C – GBS Bacteriuria and Urine Testing

Routine urine dips in the office are no longer recommended with each prenatal visit (*Choosing Wisely Canada*). Screening for proteinuria is unreliable for the development of pre-eclampsia, and routine blood pressures are preferred. Similarly, urinalysis for glucose as screening for gestational diabetes is not recommended. Studies have shown no increased risk of preterm labour due to asymptomatic bacteriuria by eliminating routine urine dips.

First trimester screening for asymptomatic bacteriuria and appropriate treatment are recommended with one first trimester C&S. The SOGC recommends treatment of **asymptomatic** GBS bacteriuria if $\geq$ **10^5 (100 000) CFU/mL** in order to minimize the risks of pyelonephritis, low birth weight and preterm birth. Symptomatic patients should be treated regardless of level of CFU/ml.

Recommended antibiotic therapy for GBS bacteriuria in pregnancy includes **Amoxicillin, Penicillin or Cephalexin.** In patients with documented penicillin allergies, **Clindamycin** is the only oral alternative, if the organism is susceptible. Consider formal allergy testing to confirm penicillin allergy in these patients, or request sensitivities to help guide treatment options.

A repeat urine C&S for test of cure should be performed **1 week after completion** of therapy to confirm resolution.

If a patient is found to have GBS bacteriuria **(regardless of level of CFU/mL)**, please document this in the Ontario Prenatal Records. These patients should not receive repeat GBS screening of genital tract culture in the 3rd trimester and will be treated at time of rupture of membranes/labour with appropriate IV antibiotics to minimize the risk of neonatal GBS disease.

Annexe D – Criteria for ASA in high risk patients

Treatment with low dose ASA and calcium supplementation in early pregnancy have been shown to decrease the incidence of preeclampsia in high risk patients.

Patients at an increased risk for pre-eclampsia should be started on **low-dose ASA 162mg PO qHS between 12 – 28 weeks, ideally prior to 16 weeks** for maximum benefits. Risks factors for pre-eclampsia and indications for ASA are listed below.

High risk (**1 or more risk factors = start ASA**)

- Prior history of pre-eclampsia or gestational hypertension
- Multifetal gestation
- Chronic hypertension
- Type 1 or 2 diabetes
- Renal disease
- Autoimmune disease (SLE, antiphospholipid syndrome)
- Assisted reproductive therapy in current pregnancy*

Moderate risk (**Consider** ASA if **at least 2** risk factors)

- Nulliparity
- Pre-pregnancy or early first-trimester BMI >30
- Family history of pre-eclampsia (mother, sister)
- Age 35 years or older
- Sociodemographic risk factors: low SES, African American race
- Prior placental abruption
- Prior stillbirth
- Prior fetal IUGR / SGA
- Interpregnancy interval > 10 years

A note that Calcium supplementation up to 1g PO daily should be considered in patients with low dietary calcium intake (< 600mg / day).

Although the SOGC has yet to publish guidelines regarding ASA for at risk patients, they have referenced the US Preventative Taskforce recommendations in other guidelines.

The above recommendations are based off guidelines from the *American College of Obstetricians and Gynecologists*, the *U.S. Preventative Taskforce*, and maternal-fetal medicine specialists at Mount Sinai hospital.

*ART is currently only recommended as a major criterion by D'Souza & Kingdom, associated with Mount Sinai. ART as a criterion for ASA can be used at the discretion of the provider.

Ideal ASA dosing is still the subject of ongoing research. However, our group recommends 162mg based off the following evidence: Caron, Nadia et al. and the ASPRE trial, which demonstrates that higher dosing may be more effective than the standard 81mg.

Annexe E – Prenatal Screening Options

Please offer all patients prenatal screening in a timely fashion as there are specific cut-off dates by GA wherein certain testing options are no longer applicable. Below is a detailed list of non-invasive prenatal screening options. The SOGC guideline *Counselling Considerations for Prenatal Genetic Screening* can be found here.

Please consider early referral or triage to a larger centre with pediatrics / genetics for any anomalies revealed during screening.

Enhanced First Trimester Screening (eFTS)
Eligible for all patients requesting prenatal screening within indicated gestational age parameters.
Covered by OHIP.
GA: 11w0d – 13w6d
Includes: Ultrasound and bloodwork.
* Please instruct patient to bring eFTS sheet with them to ultrasound for the technician to fill out the appropriate information prior to having their blood drawn at the lab.

Maternal Serum Screening (MSS):
Eligible for patients requesting prenatal screening who are ineligible for eFTS.
Covered by OHIP
GA: 15w0d – 20w6d
Includes bloodwork

Non-invasive Prenatal Testing (NIPT):
Eligible for all patients requesting prenatal screening.
Covered by OHIP IF: positive eFTS, maternal age > 40 at EDD, etc.
Otherwise self-pay

- Panorama (Lifelabs)
    - 575$ - 795$
    - GA: > 9w0d
- Harmony (Dynacare):
    - 495$
    - GA: > 10w0d

Please note that if prenatal screening is performed, although the result may be deemed low risk, certain abnormal markers may be indicative of placental insufficiency. If any of the abnormal values below are reported, consider referral to Mount Sinai Placental Clinic.

- PAPP-A < 0.35 MoM
- AFP > 2 MoM
- hCG >4 MoM
- PlGF < 0.3 MoM

Annexe F – Indications for Referral

1) Indications for early referral to Temiskaming Maternity Care Group:

Healthy and uncomplicated pregnancies should be referred around 24-26 weeks' gestation so they can be seen by 28 weeks. Any history or development of the following warrants consideration for earlier referral to OB provider. If a patient is also referred to a tertiary care centre for delivery, our group can still provide coordinated / shared care in the 3rd trimester to minimize the need for travel.

Pregnancy complications

- Hypertensive disorders
- Gestational diabetes
- Intra-uterine growth restriction (IUGR) or small for gestational age (SGA)
- Anatomical abnormalities noted on ultrasound
- Twin gestations **(dichorionic-diamniotic only)**
- Threatened preterm labour

Medical or obstetrical history

- Prior history of adverse pregnancy outcome
- Prior history of pre-eclampsia
- Risk factors for preterm labour, including: prior history of preterm labour, prior surgical procedures to cervix, short cervix (<2.5cm) on ultrasound
- Prior uterine surgeries (ex: myomectomy) or uterine anomalies
- Type 1 or 2 diabetes
- Pre-existing hypertension
- Auto-immune conditions
- Bleeding or clotting disorders, including prior history of VTE in pregnancy / post-partum
- Current substance-use disorder while pregnant
- Advanced maternal age (age > 35)

2) Indications for additional referral to Ob/Gyn:

- Previous large myomectomy
- History of incompetent cervix
- Heart disease, liver disease
- Type 1 diabetes
- Triplets
- Twin gestation (mono/di or mono/mono)
- BMI $\geq$ 45
- Methadone / opioid dependency: these patients will likely need to deliver in a tertiary centre due to the risk of neonatal abstinence syndrome (NAS)

Annexe F (continued)

3) Indications for referral to Internal Medicine (Dr. McKenna)

- Inflammatory bowel disease
- Seizure disorder
- Heart disease, liver disease
- Type 1 or 2 diabetics on insulin
- Bleeding or clotting disorders
- Previous VTE in pregnancy or post-partum
- Thyroiditis, hyperthyroidism, Graves' disease
- Auto-immune disorders
- Poorly controlled asthma
- Thalassemia or other hemoglobinopathies

4) Indications for referral to pediatrics for prenatal consultation

- Patients on antipsychotics
- Patients on ADHD medications
- Patients with known genetic disorders
- Patients with abnormal first trimester screening
- Patients with abnormalities on second trimester ultrasound
- Patients with known auto-immune disorders with possible neonatal implications: ex. Lupus

Annexe G – Weight Management in Pregnancy

Educating patients on healthy eating, exercise and weight gain in pregnancy is also vital. We recommend fostering open communication between patient and provider on the benefits of healthy weight gain in pregnancy and the known complications of obesity. Please take the time to explain to patient's their pre-pregnancy BMI, what a healthy weight gain throughout pregnancy would be for them, and connect them to appropriate resources to help them meet these goals.

As previously discussed, many patients are concerns about the safety profile of medications during pregnancy. However, most remain unaware of the maternal and fetal risks of obesity in pregnancy. We recommend educating at risk patients about these risks.

Maternal / Fetal risks of obesity:

- Fetal anomalies
- Pregnancy loss and stillbirth
- Placental dysfunction
- LGA or SGA infant
- Diabetes / GDM
- Hypertensive disorders of pregnancy
- Preterm labour

Intrapartum risks of obesity:

- Prolonged labour
- Ineffective epidural
- Macrosomia and shoulder dystocia
- Difficulty with fetal monitoring in labour
- Increased VTE risk
- Increased incidence of caesarian-section (~12% risk of C-section with BMI <25 vs. ~45% risk with BMI < 40), and increased risk of organ injuries during surgery.

Underweight (BMI $\leq$ 18.5) patients should also be counselled on the increased risks of: low birth weight or SGA infants, preterm labour, and the decreased likelihood of successfully initiating breastfeeding.

The SOGC recommendations on healthy weight gain in pregnancy are listed below and should be used as a reference when counselling patients.

Pre-pregnancy BMI	**Recommended Weight Gain**
$\leq$ 18.5	12.5 to 18kg (28 to 40 lbs)
18.5-24.9	11.5 to 16kg (25 to 35 lbs)
25-29.9	7 to 11.5kg (15 to 25 lbs)
$\geq$ 30	At least 7kg (15 lbs)
Twin pregnancy	16 to 20.5kg (35 to 45 lbs)

Annexe G (continued)

The SOGC has created a helpful handout *Healthy Eating, Exercise and Weight Gain* that we recommend providing to patients early on in their pregnancy.

Please encourage pregnant patients to participate in physical activity in order to promote maternal, fetal and neonatal health. Unless contraindicated, the *2019 Canadian Guideline for Physical Activity throughout Pregnancy* recommends at least 150 minutes of moderate intensity exercise accumulated over a minimum of 3 days. Consult the Guideline for further information on absolute and relative contraindications to physical activity in pregnancy.

Regarding specific BMI instructions, we recommend the following:

All patients with a pre-pregnancy BMI > 35 should be referred to dietitian for appropriate weight management.

Temiskaming Hospital's cut-off for deliveries and C-section is BMI ≥ 45. Please refer patients to appropriate Ob/Gyne facility if BMI is above our cut-off.

Annexe H – Nausea and Vomiting in Pregnancy

Nausea and vomiting are a common complaint in pregnancy. Below is a stepwise approach to managing nausea and vomiting in pregnancy, using both non-pharmacological and pharmacological approaches. See SOGC *Management of Nausea and Vomiting in Pregnancy*.

Non-pharmacological management (See SOGC patient Handout):

- Small frequent snacks and meals. The goal is to avoid an empty stomach which may aggravate nausea. Similarly, an overly full stomach may also aggravate nausea.
- Keeping a food journal and avoiding food triggers.
- Avoiding environmental triggers (ex., certain odours, smoke, heat, humidity, etc.).
- Iron containing supplements, including most prenatal vitamins can aggravate nausea. Taking PNVs before bed with a light snack may minimize morning sickness. If nausea persists, iron containing PNVs may be substituted for folic acid and adult multivitamins low in iron.
- Ginger containing foods, or Ginger tablets (250mg PO q8h)
- Acupressure and mindfulness-based therapies

Pharmacological management:
Please assess the safety profile of each medication on an individualized patient basis. **Please assess for, and treat hypovolemia if present with IV fluids and consider IV multivitamin supplement if deficient. If refractory symptoms, consider other causes.**

Non-pharmacological management
↓
Add Pyroxidine / Vitamine B6
10mg-25mg PO daily – QID (maximum 200mg / day)

OR

Diclectin (Doxylamine 10mg / Pyroxidine 10mg)
1-2 tabs PO daily – QID (maximum 8-12 tablets/day)
Time Diclectin with times of worse symptoms as delayed effect of 4-6h
↓
Add Gravol (or other H1 antagonist)
50mg PO daily – QID (maximum 200mg/day)
↓
Consider adding Ranitidine (or other H2 antagonist) / PPI
Reflux symptoms may aggravate nausea
↓
Add a Dopamine Antagonist
Metoclopramide 5-10mg PO q6-8h
Or
Prochlorperazine 5-10mg PO q6-8h

Annexe I – Mental Health and Pregnancy

It's essential to counsel your patients on the importance of appropriately treating mental illness in pregnancy. Many patients have reservations and fears concerning the use of antidepressants in pregnancy. We recommend addressing these concerns, especially for patients who were on medication prior to conception and who wish to come off them during pregnancy.

Untreated and uncontrolled depression and anxiety in pregnancy has been linked to multiple complications and poor outcomes:

- Miscarriage
- Hypertensive disorders of pregnancy
- Prematurity
- Post-partum hemorrhage
- Increased incidence of caesarian-section
- Low birth weight
- Lower APGARs at birth
- Increase incidence of NICU admission

Conversely, the use of most SSRI/SNRIs in pregnancy has been shown to be safe, especially when compared to the outcomes of untreated depression. It is recommended to **avoid Paroxetine**, especially in the 1st trimester.

Patients at risk for depression should be screened and treated appropriately. The **Edinburgh Postnatal Depression Scale** is a validated screening tool to use in pregnancy and in post-partum patients. Risk factors to consider include: previous history of depression, presence of stress or negative life events, lack of social support, poor relationship, unintended pregnancy, decreased income, history of domestic violence, single parenthood, etc.

Annexe J – Substance Use in Pregnancy

SOGC reports that 1/10 Canadian females report smoking or drinking EtOH in pregnancy. 1-2% of pregnant Canadians report marijuana or opioid use in pregnancy as well. The incidence of substance use can range from 2-30% depending on the population, and is higher in the NELHIN than the national average.

Cannabis

The SOGC recommends against the use of cannabis while pregnant or breastfeeding as both THC and CBD are known to cross the placental barrier and lead to long-term behavioural and neurocognitive deficits in infants, children and adolescents.

Please counsel your patients to avoid using any form of cannabis during pregnancy. We recommend posting the SOGC fact sheet on cannabis in pregnancy in your offices for patient education.

The fact sheet can be found at PregnancyInfo.ca.

Tobacco

Smoking is associated with pregnancy and neonatal morbidity including miscarriage, preterm labour, PROM, placenta previa, placental abruption, LBW/IUGR, increased perinatal mortality and SIDS. Long-term effects include childhood asthma, behavioural problems and ADHD.

All pregnant women should be counselled to decrease or stop cigarette use. Smoking cessation counselling is associated with positive outcomes in pregnancy. The safety profile of nicotine replacement therapy (NRT) in pregnancy is unclear at this time, and therefore NRT is recommended in conjunction with counselling modalities if counselling alone is unsuccessful. We recommend the lowest effective dose of NRT, in non-continuous forms (lozenges, gum). Unfortunately, the use of Varenicline and Bupropion in pregnancy have not been sufficiently studied and are therefore not recommended in pregnancy.

Opiates

The Canadian Institute for Health Information reports an increase of 27% in Neonatal Abstinence Syndrome (NAS) between 2013-2017. Pregnancy related implications of opioid use include NAS, premature labour, IUGR/LBW, preeclampsia, hemorrhage, increased perinatal mortality. Long-term effects include learning disabilities, behavioural problems, inattention and hyperactivity.

Abrupt cessation is not recommended and is associated with early pregnancy loss and preterm labour. Methadone and Suboxone are treatment options. Patients requesting detoxification should be referred appropriately to discuss risk/benefits and initiate therapy. All pregnant patients on opiates should be referred to a tertiary care centre for delivery given the risk of NAS.

Annexe K – Vaccinations in Pregnancy

Pertussis

With rising rates of pertussis in Canada, the *National Advisory Committee on Immunization (NACI)* and the *SOGC* have recommended that **immunization with Tdap vaccine should be offered in every pregnancy**, irrespective of previous Tdap immunization history. The rationale being that immunization for pertussis in pregnancy will provide passive immunity to the fetus, covering them for the first 2 months of life until they are old enough to receive their own vaccinations.

Immunization should ideally be **offered between 21-32 weeks of gestation**, which is supported by the strongest safety and effectiveness data.

Influenza

The influenza vaccine should be offered to all pregnant people at any stage of pregnancy to protect against influenza-related morbidity and mortality.

Rubella

Initial serologies in first trimester include screening for Rubella immunity. In patients where serology indicates “Non-Immune” or “Indeterminate” status, please indicate the need for post-partum administration of MMR booster in the prenatal records. MMR is a live vaccine and therefore contraindicated in pregnancy, regardless of immunization status.

COVID-19

Please use the following PCMCH (Provincial Council for Maternal and Child Health) handout when counselling pregnant or breastfeeding women about the COVID-19 vaccine.

Annexe L - Folic acid supplementation in pregnancy

Insufficient folate in pregnancy is associated with neural tube defects. All pregnant women should be counselled to include folate-rich foods in their diet, **in addition** to supplementing **at least** 0.4mg folic acid (included in most PNVs) from at least 3 months before conception, throughout pregnancy and until at least 6 weeks postpartum (or until no longer breastfeeding).

Recommended folic acid supplementation is stratified depending on patient risk factors for NTD. The SOGC recommendations for folic acid supplementation are listed below:

	Risk factors	Recommended dosing & timing
Low risk	• All pregnant patients without moderate or high-risk factors	**0.4mg folic acid** 3 months pre-conception until 6w postpartum or no longer breastfeeding
Moderate risk	• Personal (or genetic father) history for folate sensitive anomalies (heart defects, oral facial clefts, or urinary tract anomalies) • Family history (mother or father) of NTD in 1st/2nd degree relative • Maternal Type 1 or 2 diabetes • Anti-seizure medications • GI malabsorption (e.g. gastric bypass, Crohn's, Celiac, alcohol abuse) • Advanced liver disease • Renal dialysis	**1.0mg folic acid** Minimum 3 months pre-conception until 12w GA then **0.4mg – 1.0mg folic acid** 12w GA until 6w postpartum or no longer breastfeeding
High risk	Either patient or genetic father history of: • Personal NTD history • Previous pregnancy affected by NTD	**5.0mg folic acid prescription multivitamin** Minimum 3 months pre-conception until 12w GA then **0.4mg – 1.0mg folic acid** 12w GA until 6w postpartum or no longer breastfeeding