PRENATAL APPROACH

Event[i]	Preconception Visit	Visit 1: 6–8 weeks[ii]	Visit 2: 10–12 weeks	Visit 3: 16–18 weeks	Visit 4: 22 weeks

Recommended Care	• Height and weight/BMI (2009 IOM guidelines)[iii]
	• Blood pressure
	• History and physical (including teeth/gums)
	• Cervical cancer screening
	• Rubella titer
	• Varicella titer[iv]
	• Intimate partner violence screening[v]
	• Depression screening[vi]
	• Risk factor based STI screening[vii]
	• TSH screening based on risk factors[viii]
	• Patient specific health and social risk profiles
		• History and physical (can be split into 2 visits)
		• Height and weight/BMI
		• Blood pressure
		• Full Obstetric History
		• Confirm LMP and send for dating ultrasound as indicated[ix]
		• Screening:[x]
		  ○ Formal alcohol and drug[xi]
		  ○ Intimate partner violence[xii]
		  ○ Depression[xiii]
		• Labs:
		  ○ Rubella titer, Varicella titer
		  ○ GC/Chlamydia, HIV, Syphilis
		  ○ CBC
		  ○ ABO/Rh/Ab
		  ○ Urine culture
		  ○ Viral hepatitis B screening
		  ○ Viral hepatitis C screening based on risk factors[xiv]
		  ○ Pre-existing DM II/gestational diabetes screening (Initially HgA1C if <20wks)[xv]
		  ○ TSH screening based on risk factors[xvi]
		  ○ Cervical cancer screening (pap/HPV as indicated)
		  ○ [Ethnic and age based genetic screening] [xvii,xviii]
		• Screen and document for beliefs regarding blood transfusion
		• Give information about advanced directives
			• Weight
			• Blood pressure
			• Offer fetal aneuploidy screening
			• Fetal heart tones
			• Assess fundal height
				• Weight
				• Blood pressure
				• Offer fetal aneuploidy screening (if not done previously)
				• Fetal heart tones
				• Schedule OB ultrasound with cervical assessment (optional)
				• Assess fundal height
				• [Depression screening] [xix]
					• Weight
					• Blood pressure
					• Fetal heart tones
					• Measure fundal height (start cm measurements)
					• History of C-section: Counsel for VBAC or repeat C-section[xx]

Counseling Education Intervention[xxi]	• Substance use
	• Nutrition and weight
	• Intimate partner violence screening
	• List of medications, herbal supplements, vitamins
	• Accurate recording of menstrual dates
	• Review prior pregnancy history and implications for future pregnancy
	• Discuss ethnic genetic disease carrier status screening as indicated (cystic fibrosis, sickle cell, etc.)[xxii]
	• Dental hygiene
	• Folic acid role in pregnancy reviewed
		• Trimester specific precautions
		• Prenatal and lifestyle education
		  ○ Physical activity
		  ○ Nutrition
		  ○ Review patient specific modifiable risk factors
		  ○ Nausea and vomiting
		  ○ Warning signs
		  ○ Course of care and resources (OB triage)
		  ○ Physiology of pregnancy
		• Patient specific resources (home visiting programs, community resources, Text for Baby)
		• Discuss fetal aneuploidy screening/schedule as appropriate[xxiii]
		• Discuss ethnic genetic disease carrier status screening as indicated (cystic fibrosis, sickle cell, etc.)
		• Dental hygiene
		• [VBAC]
			• Trimester specific precautions
			• Prenatal and lifestyle education
			• Fetal growth
			• Review lab results from first visit
			• Breastfeeding
			• Nausea and vomiting
			• Physiology of pregnancy
			• Follow-up of modifiable risk factors
			• Preterm delivery risk assessment follow up as indicated
				• Trimester specific precautions
				• Prenatal and lifestyle education
				• Follow-up of modifiable risk factors
				• Physiology of pregnancy
				• Second trimester growth
				• Quickening
				• Preterm labor precautions/education
					• Trimester specific precautions
					• Prenatal and lifestyle education
					• Follow-up of modifiable risk factors
					• Childbirth classes
					• Family issues
					• Discuss and schedule GDM screen
					• Preterm labor precautions/education
					• Postpartum contraception (sign BTL consent)

Immunization / Prophylaxis	• Tetanus booster • Hepatitis B vaccine • Folic acid supplement [xxiv] • HPV vaccine as indicated • [Rubella/MMR] • [Varicella]	• Nutritional supplements • Influenza vaccine[xxv] • Folic acid supplement • [PPD not routinely recommended[xxvi]]		• [Progesterone]	

Event	Visit 5: 26-28 weeks	Visit 6: 32 weeks	Visit 7: 35-36 weeks	Visit 8-11: 38-41 weeks	Postpartum: 2-6 weeks[xxvii]
Recommended Care	• Weight • Blood pressure • Fetal heart tones • Fundal height • GDM screening (2 step, 1hr cut off 130) [xxviii] • Anemia screening[xxix] • Intimate partner violence • Preterm labor risk • History of C-section: Counsel for VBAC or repeat C-section[xxx] • [Rh antibody status] • [Depression screening]	• Weight • Blood pressure • Fetal heart tones • Fundal height • Assess fetal position	• Weight • Blood pressure • Fetal heart tones • Fundal height • Cervix exam (if indicated) • Confirm fetal position • Culture for group B streptococcus • Schedule pre-op if planning a C-section[xxxi] • [GC/Chlamydia][xxxii] • [Anemia follow up] • [HSV prophylaxis]	• Weight • Blood pressure • Fetal heart tones • Fundal height • Cervix exam as indicated • Schedule NST/BPP after 41wks or IOL at 41 0/7 weeks • Discuss options for pediatric care[xxxiii]	• Height and weight/BMI • Blood pressure History and physical • Intimate Partner Violence screen • Depression screen • [GDM 2hr fasting or 75g glucose f/u screen 6-12 weeks Postpartum] • [GC/Chlamydia if indicated] • [Cervical Cancer screening if indicated]

Counseling Education Intervention[xxxiv]	• Trimester specific precautions
	• Psychosocial risk factors
	• Prenatal and lifestyle education
	  ○ Follow-up of modifiable risk factors
	  ○ Work
	  ○ Physiology of pregnancy
	  ○ Fetal growth
	• Postpartum contraception (sign BTL consent), consider signing consent for post placental IUD placement
	• Preterm labor precautions/education
	• Awareness of fetal movement
	• Breastfeeding education (2nd Baby Friendly handout)
	• Offer childbirth education classes
	• [VBAC counseling and consent signed]
		• Trimester specific precautions
		• Preterm labor education
		• Prenatal and lifestyle education
		• Follow-up of modifiable risk factors
		• Travel
		• Contraception (sign BTL consent if indicated)
		• Sexuality (restrictions/freedoms)
		• Pediatric care
		• Discuss circumcision [xxxv]
		• Labor and delivery questions and typical length of stay
			• Trimester specific precautions
			• Prenatal and lifestyle education
			• Follow-up of modifiable risk factors
			• Postpartum care
			• Management of late pregnancy symptoms
			• Contraception
			• When to call provider
			• Discussion of postpartum depression
			• Car seat for baby
			• Discuss circumcision
			• Pediatric care
			• Offer tour of L&D
			• Pre-admitting paperwork complete, as appropriate (call admitting)
				• Trimester specific precautions
				• Prenatal and lifestyle education
				  ○ Follow-up of modifiable risk factors
				  ○ Postpartum vaccinations
				  ○ Infant CPR
				  ○ Late-term management
				• Labor and delivery update
				• Breastfeeding education and coordinate breast pump, as appropriate[xxxvi]
					• Contraception
					• Postpartum emotional adjustment
					• Breastfeeding concerns and support
					• Nutrition, exercise, and healthy lifestyle

Immunization / Prophylaxis	• [ABO/Rh/Ab] [RhoGAM] [Hepatitis B Ag] • Tetanus/pertussis booster[xxxvii] • Tdap per NM DOH and CDC 2013, between 27-36 weeks ideal, ok >20 weeks				• Tetanus/pertussis vaccine given immediate postpartum if not given during pregnancy

[i] For questions or comments, please contact Monica Slinkard Philipp, CNP-BC, mslinkardphilipp@salud.unm.edu. Please also take note of the many references in end notes, also accessible on the Wiki OB/GYN web page: http://unmobgyn.pbworks.com/w/page/83785075/FrontPage. Last updated 10/2015.
This rubric is intended to provide a guide to assure high quality care delivery to each routine OB patient in the UNMH system receiving antenatal care and postpartum care. This guide is designed to delineate a standard of care that is up to date, evidence based, and both provider and patient friendly. The best effort will be made to incorporate recommendations into the Power Chart EMR for ease of use. In order to keep this document current, please inform the Prenatal Standardization of Care Collaborative lead Monica Slinkard Philipp, CNP mslinkardphilipp@salud.unm.edu, of any evidence based updates that should be incorporated. In an attempt to represent the various services, the Prenatal Standardization of Care Collaborative core team consists of Dr. Emilie Sebesta (Pediatrics), Kelly Gallagher, CNM (Midwifery), Dr. Sarah Gopman (Family Practice), Dr. Jody Stonehocker (OB/GYN), and Monica Slinkard Philipp, CNP (M&FP).

[ii] The timing of prenatal visits may vary depending on the patient's particular needs. Therefore, these recommendations are intended to be a guide only and adapted to patient need and provider discretion.
Additional prenatal care timing options include (directly from the Family Practice Guidelines):

- Low-risk patients have traditionally been followed every four weeks until 26-28 weeks, then every two weeks until 35-36 weeks, then weekly until 41 weeks, when post-dates testing begins.
- Multip: 12,20, 28, 34, 36, 38 ,40 ,41
- Nullip: 12, 20, 25, 28, 31, 34, 36, 38, 40, 41
- High-risk patients are usually followed more frequently depending on their particular condition.

[iii]Weight goals: The recommendation is to follow the IOM guidelines from 2009 until sufficient evidence suggests updating is indicated. Weight should be measured and addressed at each visit. Patients can be directed to the "You & Your Baby's Health," booklet which also have the 2009 IOM guidelines listed.
Implementation: Interactive flow charts of weight with a comparison to the IOM guidelines in PCO are the ideal.

2009 Institute of Medicine and National Research Council Recommendations for Total and Rate of Weight Gain During Pregnancy, by Prepregnancy Body Mass Index

			Rates of Weight Gain*	
	Total Weight Gain		Second and Third Trimesters	
Prepregnancy BMI (kg/m^2)	Range (kg)	Range (lb)	Mean (Range) (kg/wk)	Mean (Range) (lb/wk)
Underweight (less than 18.5)	12.5–18.0	28.0–40.0	0.51 (0.44–0.58)	1.0 (1.0–1.3)
Normal weight (18.5–24.9)	11.5–16.0	25.0–35.0	0.42 (0.35–0.50)	1.0 (0.8–1.0)
Overweight (25.0–29.9)	7.0–11.5	15.0–25.0	0.28 (0.23–0.33)	0.6 (0.5–0.7)
Obese (30.0 or higher)	5.0–9.0	11.0–20.0	0.22 (0.17–0.27)	0.5 (0.4–0.6)

BMI, body mass index.

*Calculations include a total first-trimester gain of 2 kg (1–3 kg) for all except obese women, who should gain 1.5 kg (0.5–2.0 kg).

Data from Institute of Medicine/National Research Council (Committee to Reexamine IOM Pregnancy Weight Guidelines, Food and Nutrition Board and Board on Children, Youth, and Families). Weight gain during pregnancy: reexamining the guidelines. Washington, DC: National Academies Press, 2009.

[iv] Varicella screening: The recommendation is to follow the CDC recommendations per the 2007 guidelines, which still hold in 2015, until additional updates available: The patient should be screened by varicella titer at the preconception counseling visit or NOB visit if patient does not have written proof of immunity either by patient record of chicken pox or proof of the two vaccine series (See box below: CDC: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5604a1.htm).
If the patient is non-immune, varicella precautions should be given and the patient should receive the varicella vaccine postpartum.

- National Clearinghouse Guidelines. 2012 Management of varicella infection (chickenpox) in pregnancy. http://www.guideline.gov/content.aspx?id=36629. Published May 30, 2012. Accessed October 19, 2015.
- CDC. "Chickenpox in pregnancy." http://www.cdc.gov/pregnancy/infections-chickenpox.html. Last updated September 9, 2014. Accessed 10/19/2015.
- CDC. 2007 MMWR report Prevention of Varicella: Recommendations of the Advisory Committee on Immunization Practices (ACIP). http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5604a1.htm. Published June 22, 2007. Accessed October 19, 2015.

Of note: Cost of Varicella antibody titer testing: $55.94 with Tricore direct, UNMH cost is $66.25 as of June 2015. To call for cost of services number is 925 0900 at UNMH.

BOX. Evidence of immunity to varicella

Evidence of immunity to varicella includes any of the following:

- documentation of age-appropriate vaccination with a varicella vaccine
  - — preschool-aged children (i.e., aged ≥12 months): 1 dose
  - — school-aged children, adolescents, and adults: 2 doses*
- laboratory evidence of immunity† or laboratory confirmation of disease
- birth in the United States before 1980§
- diagnosis or verification of a history of varicella disease by a health-care provider¶
- diagnosis or verification of a history of herpes zoster by a health-care provider

* For children who received their first dose at age <13 years and for whom the interval between the 2 doses was ≥28 days, the second dose is considered valid.

† Commercial assays can be used to assess disease-induced immunity, but they lack sensitivity to always detect vaccine-induced immunity (i.e., they might yield false-negative results).

§ For health-care personnel, pregnant women, and immunocompromised persons, birth before 1980 should not be considered evidence of immunity.

¶ Verification of history or diagnosis of typical disease can be provided by any health-care provider (e.g., school or occupational clinic nurse, nurse practitioner, physician assistant, or physician). For persons reporting a history of, or reporting with, atypical or mild cases, assessment by a physician or their designee is recommended, and one of the following should be sought: 1) an epidemiologic link to a typical varicella case to a laboratory-confirmed case or 2) evidence of laboratory confirmation, if it was performed at the time of acute disease. When such documentation is lacking, persons should not be considered as having a valid history of disease because other diseases might mimic mild atypical varicella.

[v] Intimate partner violence: To be screened by provider or support staff with provider review and documented in the prenatal chart. A suggested intimate partner violence screening tool as developed per ACOG is available: http://www.acog.org/About-ACOG/ACOG-Departments/Violence-Against-Women/Screening-Tools--Domestic-Violence

"1. Within the past year -- or since you have been pregnant -- have you been hit, slapped, kicked or otherwise physically hurt by someone?
2. Are you in a relationship with a person who threatens or physically hurts you?
3. Has anyone forced you to have sexual activities that made you feel uncomfortable?"

[vi] Depression Screening: In order to standardize depression screening across services, screening is recommended at a minimum at both the NOB visit and postpartum visit both with the Edinburgh Postnatal Depression Scale, which has been validated throughout the perinatal period and is available in a number of languages (Bergink V et al. Validation of the Edinburgh Depression Scale during pregnancy. J Psychosom Res. 2011 Apr;70(4):385-9). If there is any concern for depression during the antenatal period, it is recommended that the patient be screened each trimester. If the Edinburgh Postnatal Depression scale is not available in the antepartum period, the PhQ2 to PhQ9 screening tools are also acceptable. Additional information is available at ACOG toolkit: http://mail.ny.acog.org/website/DepressionToolKit.pdf

Implementation: The Edinburgh Postnatal Depression Scale will be available on PCO. As patients are to complete these forms individually, MAs should distribute the paper forms to the patients while they are waiting in order to complete them. The forms can either be scanned to the chart with the total score and SI noted in the chart, or the score can be manually entered into the document in PCO.

[vii] Risk factor based STI screening should be done at the preconception counseling visit. Additionally, counseling regarding cytomegalovirus virus for patients working or living with children should be done, as well as a review of foods that should be avoided due to listeriosis risk.

- CDC. Preconception counseling, infectious disease, 2014. http://www.cdc.gov/preconception/careforwomen/disease.html

[viii] TSH screening at the NOB visit:
Our recommendations are consistent with ACOG and USPST; both recommend against universal thyroid screening for asymptomatic women in early pregnancy.

- ACOG 2007: http://www.acog.org/About-ACOG/News-Room/News-Releases/2007/Routine-Thyroid-Screening-Not-Recommended-for-Pregnant-Women

Risk based screening in accordance with the Endocrine Society is acceptable. The Endocrine Society recommends screening high risk patients only, and has not drawn consensus as to universal screening during their committee update in 2013.

- De Groot L, et al. Management of Thyroid Dysfunction during Pregnancy and Postpartum: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab.* 2013; 97(8). http://press.endocrine.org/doi/full/10.1210/jc.2011-2803# Accessed July 21, 2015

Table 1. Recommended patient profiles for targeted thyroid disease case finding in women seeking pregnancy or newly pregnant http://press.endocrine.org/doi/full/10.1210/jc.2011-2803#

- Women over age 30 yr
- Women with a family history or autoimmune thyroid disease or hypothyroidism
- Women with a goiter
- Women with thyroid antibodies, primarily thyroid peroxidase antibodies
- Women with symptoms or clinical signs suggestive of thyroid hypofunction
- Women with type 1 DM or other autoimmune disorders
- Women with infertility
- Women with a prior history of miscarriage or preterm delivery
- Women with prior therapeutic head or neck irradiation or prior thyroid surgery

- Women currently receiving levothyroxine replacement
- Women living in a region with presumed iodine deficiency

[ix] There are two main recommendations for determining due date when 1st trimester ultrasound is available: Please refer to the 2014 ACOG committee opinion for specific recommendations for http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Method-for-Estimating-Due-Date and alternatively the "8% rule," Gestational Dating, http://www.medscape.com/viewarticle/703501_4.

[x] Adolescent pregnancies: Pregnant teenagers have a higher risk of insufficient prenatal care, STI infection during pregnancy, low birth weight infants, decreased rates of breastfeeding, and postpartum depression. They are also at risk for another pregnancy before the age of 20 and intimate partner violence.
For these reasons providers should be encouraged to:
1. Address plans for contraception and breastfeeding at every visit.
2. Assess social situation and screen for intimate partner violence and depression with proper referrals.
3. STI screen (specifically GC/CT) in first and third trimesters at a minimum.
4. Frequently review nutrition and weight goals and refer to nutrition as appropriate.

- Center for Disease Control. Sexually Transmitted Diseases Treatment Guidelines, 2015. Recommendations and Reports. June 5, 2015 / 64(RR3);1-137. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6403a1.htm?mobile=nocontent&s_cid=rr6403a1_e.
- Daley AM, Sadler LS, Reynolds HD. Tailoring Clinical Services to Address the Unique Needs of Adolescents from the Pregnancy Test to Parenthood. Current Problems in Pediatric and Adolescent Health Care, Vol 43 (4) April 2013: 71-95.
- Fraser AM, Brockert JE, Ward RH. Association of young maternal age with adverse reproductive outcomes. N Engl J Med. 1995 Apr 27;332(17):1113-7.
- Spear HJ. Breastfeeding behavior and experience of adolescent mothers. Am J Maternal-Child Nursing, Vol. 31 (2) March/April 2006: 106-113.

[xi] Formal Alcohol and Drug screening is recommended with every patient at NOB visit by either provider or support staff with provider review: Recommended tools (no copyright):
A. 4P's substance abuse screen in pregnancy. A positive answer to any of the questions indicates a need for more in-depth screening.
1. Have you ever used drugs or alcohol during **P**regnancy?
2. Have you had a problem with drugs or alcohol in the **P**ast?
3. Does your **P**artner have a problem with drugs or alcohol?
4. Do you consider one of your **P**arents to be an addict or alcoholic?

B. T-ACE for alcohol abuse screening. Question #1 has a weight of two; others have a weight of one. If the total equals 2 or more, this suggests a problem. Patients identified with significant drug or alcohol problems may be offered referral to the Milagro Clinic for counseling.

1. **T** - Does it take more than it used to for you to get high? (**T**olerance)?
2. **A** - Do you feel **A**nnoyed by people complaining about your drinking?
3. **C** - Have you ever felt the need to **C**ut down on your drinking?

4. **E** - Have you ever had a drink first thing in the morning (**E**ye-opener)?

Marijuana use in pregnancy: Please refer to the ACOG July 2015 Committee Opinion: Marijuana use During Pregnancy and Lactation: http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Marijuana-Use-During-Pregnancy-and-Lactation.

Implementation: The screening tools to be available on PCO.

[xii] Intimate partner violence: To be screened by provider or support staff with provider review and documented in the prenatal chart.
A suggested intimate partner violence screening tool as developed per ACOG is available: http://www.acog.org/About-ACOG/ACOG-Departments/Violence-Against-Women/Screening-Tools--Domestic-Violence

"1. Within the past year -- or since you have been pregnant -- have you been hit, slapped, kicked or otherwise physically hurt by someone?
2. Are you in a relationship with a person who threatens or physically hurts you?
3. Has anyone forced you to have sexual activities that made you feel uncomfortable?"

[xiii] Depression Screening: In order to standardize depression screening across services, screening is recommended at a minimum at both the NOB visit and postpartum visit both with the Edinburgh Postnatal Depression Scale, which has been validated throughout the perinatal period and is available in a number of languages (multiple studies). If there is any concern for depression during the antenatal period, it is recommended that the patient be screened each trimester.
If the Edinburgh Postnatal Depression scale is not available in the antepartum period, the PhQ2 to PhQ9 screening tools are also acceptable.
Additional information is available at ACOG toolkit: http://mail.ny.acog.org/website/DepressionToolKit.pdf

Implementation: The Edinburgh Postnatal Depression Scale will be available on PCO. As patients are to complete these forms individually, MAs should distribute the paper forms to the patients while they are waiting in order to complete them. The forms can either be scanned to the chart with the total score and SI noted in the chart, or the score can be manually entered into the document in PCO.

[xiv] It is recommended that all NOB patients are screened for Hepatitis C based on *risk factors* per CDC recommendations.
Updated CDC guidelines June 2015:
All pregnant women *at risk for HCV* infection should be screened for hepatitis C antibodies at the first prenatal visit.

- "The most important risk factor for HCV infection is past or current injection drug use.
- Additional risk factors include
  - having had a blood transfusion before July 1992
  - receipt of an unregulated tattoo
  - having been on long-term hemodialysis
  - intranasal drug use
  - and other percutaneous exposures" (including children born to HCV positive mothers and persons with HIV infection).
- Center for Disease Control. Sexually Transmitted Diseases Treatment Guidelines, 2015. Recommendations and Reports. June 5, 2015 / 64(RR3);1-137. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6403a1.htm?mobile=nocontent&s_cid=rr6403a1_e

Cost: As of July 2015, Cost of Hep Panel with Tricore = Hep A Ab IgM; Hep B Core IgM; Hep B Surface Ag; Hep C Antibody; Signal/Cutoff Ratio = $323.00. Hep C Antibody= $98.00. Hep B surface Ag = $74.00. Therefore, it is more cost effective to do the Hep C Ab and Hep B Surface Ag separately and not as a Hep panel unless this is concern for Hep A. For up to date pricing, the UNMH price line is 925 0900.

[xv] Gestational Diabetes Screening:
Due to a higher risk population that is served by UNMH services, the GDM screening proposed is conservative in order to assure GDM capture and hopefully improve not only pregnancy outcomes but decrease lifetime DM II risks of our patients through lifestyle coaching and GDM/DMII awareness during the patient's pregnancy and postpartum. Our recommendation is to universally screen NOB patients for pre gestational diabetes and to use conservative cut offs for the screening and diagnostic tests.

We recommend universal screening at the NOB and 24-28wk gestation visits, as is currently being done across services at UNMH.

NOB screening:

- The NOB screen can be done with a HgA1C if <20wk, with a cut off of 5.7-6.4 for pre-diabetes and greater than 6.4 for overt diabetes of pregnancy.
    - Based on data in non-pregnant women, the ADA recommends, if the HBA1C is between 5.7 and 6.4, that these patients be diagnosed as pre diabetics and be treated like GDM A1s with counseling about diet and exercise as well as potentially a nutrition consult. Additional testing should be considered at the time of pre diabetes diagnosis. For patients being referred to MFM, the UNMH MFM recommendation is for patients with a pre diabetes range HgA1C value to undergo a 3 hour, oral GTT. However, it is also appropriate for patients in the pre diabetic range to receive a diagnostic fasting glucose as an alternative (<92 wnl) if the patient is not being referred to MFM, as there is a lack of specific evidence about appropriate follow up for this pre diabetic range (IADPSG. International Association of Diabetes in Pregnancy Study Groups Recommendations on the Diagnosis and Classification of Hyperglycemia in Pregnancy. Diabetes Care. 2010; 33(3): 676-682).
    - If the HgA1C value is >6.4, the diagnosis of overt diabetes of pregnancy is made and the patient is treated like a GDMA2 or DM Type 2. The patient is then referred for consultation and diabetic management.

24-28week screening:

- Standardizing the screening cut off values across UNMH clinics is imperative so that all patients receive equal care. We recommend a continued 2 step approach for 24-28wk screening in accordance with the ACOG 2013 practice bulletin, unless high suspicion indicates a 1 step approach and the patient is willing to comply (ADA recommends 1 step).
- Because of the varying cut off values across services for the 1 hour glucose screen in the 2 step approach, we recommend to standardize the approach, using the cut off **130 mg/dL** to capture approximately 90% detection. As noted in AHRQ National Clearinghouse Guidelines on GDM screening updated in 2013, though there may not be clear evidence for one value over another, "it is suggested that health care providers select one of these as a single consistent cutoff for their practice, with factors such as community prevalence rates of GDM considered in that decision." As UNMH serves a high risk patient population, the 130 mg/dL cut off is recommended. A lower 1hr screening value may indeed capture more women to return for a 3hr GTT; patients that do meet the 3hr criteria after an only mildly elevated 1hr are likely to be diet controlled and require few interventions, which will hopefully help these patients learn the skills needed to avoid the progression of pre diabetes to diabetes later in life.
- Additionally, the standardization of 3hr GTT cut off values are recommended as the more conservative Carpenter and Coustan: 95/180/155/140 mg/dL, which is currently routinely being done across services (but not reflected in the TriCore cut off values).

Postpartum screening:

- Patients with GDM need intensive follow up postpartum as well, initially with a 2hr GTT at 6-12wks (ADA recommendation), then screening at least every 1-3 years throughout their lifetime with either GTT or HgA1C (ADA, USPSTF, AACE, ACOG).
    - If the 2hr GTT is within normal limits, the patient should be screened every 1-3 years throughout their lifetime with either GTT or HgA1C (ADA, USPSTF, AACE, ACOG).
    - If the 2hr GTT indicates pre diabetes, the patient should be screened every year throughout their lifetime with either GTT or HgA1C (ADA, USPSTF, AACE, ACOG).
    - If the 2hr GTT indicates frank diabetes, the patient should be referred for immediate follow up by a PCP.

The MFM diabetes clinic led by Dr. Luis Curet is an excellent resource for additional question regarding diabetes screening and management.

[Recommendations from the ADA and ACOG elucidate that using a threshold value of 140 mg/dL results in approximately 80% detection of GDM, whereas using a threshold of 130 mg/dL results in 90% detection. (American Diabetes Association. Standards of Medical Care in Diabetes - 2007. Diabetes Care. 2007;30(suppl 1):S4–41. American College of Obstetricians and Gynecologists (ACOG): Committee on Practice Bulletins--Obstetrics. ACOG practice bulletin. Clinical management guidelines for Obstetrician-Gynecologists. Number 30, September 2001 (replaces Technical Bulletin Number 200, December 1994) Gestational diabetes. Obstet Gynecol. 2001;98:525–38.)]

[xvi] TSH screening at the NOB visit:
We recommend against universal thyroid screening for asymptomatic women in early pregnancy, which is consistent with ACOG.

- ACOG 2007: http://www.acog.org/About-ACOG/News-Room/News-Releases/2007/Routine-Thyroid-Screening-Not-Recommended-for-Pregnant-Women

Risk based screening in accordance with the Endocrine Society and USPSTF is acceptable. The Endocrine Society recommends screening high risk patients only, and has not drawn consensus as to universal screening during their committee update in 2013. The USPSTF indicates that here is insufficient evidence to recommend for or against universal TSH screening at the first trimester visit (I), however serum TSH values should be obtained early in pregnancy for women at high risk for overt hypothyroidism (B).

- De Groot L, et al. Management of Thyroid Dysfunction during Pregnancy and Postpartum: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab.* 2013; 97(8). http://press.endocrine.org/doi/full/10.1210/jc.2011-2803# Accessed July 21, 2015
- National Guideline Clearinghouse. Guidelines of the American Thyroid Association [& USPSTF] for the diagnosis and management of thyroid disease during pregnancy and postpartum. http://www.guideline.gov/content.aspx?id=36633.

Table 1. Recommended patient profiles for targeted thyroid disease case finding in women seeking pregnancy or newly pregnant Endocrine Society: http://press.endocrine.org/doi/full/10.1210/jc.2011-2803#

- Women over age 30 yr
- Women with a family history or autoimmune thyroid disease or hypothyroidism
- Women with a goiter
- Women with thyroid antibodies, primarily thyroid peroxidase antibodies
- Women with symptoms or clinical signs suggestive of thyroid hypofunction
- Women with type 1 DM or other autoimmune disorders

- Women with infertility
- Women with a prior history of miscarriage or preterm delivery
- Women with prior therapeutic head or neck irradiation or prior thyroid surgery
- Women currently receiving levothyroxine replacement
- Women living in a region with presumed iodine deficiency

[xvii] Screening tests by ethnic group: Here is a quick reference of screening tests that can be offered by ethnic group (Left column with citation 2007, Right column from Boston Medical Group website updated 2014: http://www.bmc.org/diagnostic-genetics/ethnic-based.htm). Additionally, a referral to genetics for additional counseling and screening of both partners may also be offered at the provider's discretion.

Genetic screening in various ethnic groups

Ethnic Group	Disorder	Screening Test
All ethnic groups	Cystic fibrosis	DNA analysis of selected panel of 23 CFTR mutations (alleles present in 0.1% of the general US population)
Black	Sickle cell anemia	MTV<80%, followed by hemoglobin electrophoresis
Ashkenazi Jewish	Tay-Sachs disease	Decreased serum hexosaminidase-A or DNA analysis for selected alleles
	Canavan disease	DNA analysis for selected alleles
	Familial dysautonomia	DNA analysis for selected alleles
Cajun	Tay-Sachs disease	DNA analysis for selected alleles
French Canadian	Tay-Sachs disease	DNA analysis for selected alleles
Mediterranean (Italian, Greek)	β-Thalassemia	MCV<80%, followed by hemoglobin electrophoresis if iron deficiency excluded
Southeast Asian (Filipino, Chinese, African, Vietnamese, Laotian, Cambodian, Filipino)	α-Thalassemia	MCV<80%, followed by hemoglobin electrophoresis if iron deficiency excluded

Abbreviation: CFTR, cystic fibrosis transmembrane conductance regulator; MCV, mean corpuscular volume.

Data from Simpson JL, Holzgreve W. Genetic counseling and genetic screening. In: Gabbe SG, Niebyl JR, Simpson JL, editors. Obstetrics: normal and problem pregnancies. 5th edition. Chapter 6. Philadelphia: Elsevier; 2007. p. 145.

Ethnicity	Disease	Likelihood
African-American	Sickle Cell Alpha-Thalassemia Cystic Fibrosis SMA Beta-Thalassemia	1 in 10-12 1 in 30 1 in 61 1 in 72 1 in 75
Ashkenazi Jewish	Gaucher disease Cystic Fibrosis Tay-Sachs disease Fam. dysautonomia Canavan disease SMA And more	1 in 15 1 in 25 1 in 25 1 in 40 1 in 40-52 1 in 67
Asian	Alpha-Thalassemia Beta-Thalassemia SMA Cystic fibrosis	1 in 20 1 in 50 1 in 52-59 1 in 94
European	Cystic Fibrosis SMA	1 in 25 1 in 47
French Canadian, Cajun	Tay-Sachs disease Cystic Fibrosis	1 in 25 1 in 25
Hispanic	Cystic Fibrosis Beta-Thalassemia SMA	1 in 40-60 1 in 30-50 1 in 68
Mediterranean	Beta-Thalassemia Cystic Fibrosis Alpha-Thalassemia Sickle Cell	1 in 20-30 1 in 29 1 in 30-50 1 in 40

[xviii] Fetal aneuploidy screening: There are a number of genetic screening options available to our patients during their pregnancy course. Genetic screening should be individualized to the patient's history, desire, with consideration of possible insurance limitations. No firm recommendation can be made at this time of one screening regimen over another as data in this field is dynamic with new alternatives.

However, it is important to consider the following when considering which screening test is right for the patient. Overall, the most cost effective screening method for normal risk patients at this moment systemically is the contingency screening for patients who present in the first trimester (1st

trimester: Nuchal translucency, PAPP-A, and hCG measurements are used to determine risk; no further testing is recommended in women at low risk of Down syndrome; 2nd trimester: maternal serum AFP should be performed to assess risk of neural tube defects; Dr. Rappaport has more information about cost effectiveness of this method). Information surrounding NIPTs (Free Cell DNA testing) is evolving and in the future may prove to be an accepted (possibly recommended as superior) alternative for both high and low risk patients alike. Currently NIPT must be ordered through the genetics specialty at UNMH for both high and low risk patients, and so all patients interested and counseled about the risks/benefits/indications must be seen with genetics who will order the tests (9/2015). NIPTs are very accurate but, just as with MSS tests, not considered diagnostic and patients should be aware of this as part of their informed consent. Please see the latest ACOG advisory regarding Free Cell DNA testing for high and low risk women which was updated April 2015: http://www.acog.org/About-ACOG/News-Room/Practice-Advisories/ACOG-Practice-Advisory-on-Cell-Free-DNA-Screening.

[xix] Depression Screening: In order to standardize depression screening across services, screening is recommended at a minimum at both the NOB visit and postpartum visit both with the Edinburgh Postnatal Depression Scale, which has been validated throughout the perinatal period and is available in a number of languages (multiple studies). If there is any concern for depression during the antenatal period, it is recommended that the patient be screened each trimester.
If the Edinburgh Postnatal Depression scale is not available in the antepartum period, the PhQ2 to PhQ9 screening tools are also acceptable. Additional information is available at ACOG toolkit: http://mail.ny.acog.org/website/DepressionToolKit.pdf

Implementation: The Edinburgh Postnatal Depression Scale will be available on PCO. As patients are to complete these forms individually, MAs should distribute the paper forms to the patients while they are waiting in order to complete them. The forms can either be scanned to the chart with the total score and SI noted in the chart, or the score can be manually entered into the document in PCO.

[xx] VBAC recommendations are clearly delineated in the OB/GYN protocol prepared by Dr. Larry Leeman and approved by Dr. Eve Espey 6/15/2015 available here: http://unmobgyn.pbworks.com/w/file/fetch/97765748/TOLAC-Trial%20of%20Labor%20after%20Cesarean.pdf. Patient who are scheduled for a repeat C-section should be scheduled at the clinic site or the pre-op clinic as is most appropriate for a pre-op physical. When counseling patients for a TOLAC and/or repeat C-section, the risk calculator available through the U.S Department of Health and Human Services/Agency for Health Care Research and Quality (AHRQ) developed by Northwestern University OB/GYN as an educational tools in 2009, should be considered in order to evaluate a patient's specific TOLAC risk until a better tool is developed, with awareness that the extreme precision delineated in the percent calculation may not be reflective of such true specification of TOLAC risk and should be explained to patients as an estimate only: https://innovations.ahrq.gov/qualitytools/vaginal-birth-after-cesarean-vbac-risk-calculator. The standard stamp in PCO should be used with counseling to assure that all essential points are consistently covered. The TOLAC consent form is available here in the right hand column: https://hospitals.health.unm.edu/intranet/Forms/ClinicalForms/Index.cfm

[xxi] Patient education: Patient education lists here are to be addressed throughout the pregnancy; these are reminders to address them at particular time intervals, but it is understood that patient specific needs must also be addressed at each visit and some education may be done at an earlier or later visit depending on the priorities of the patient visit.

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However, it is important to consider the following when considering which screening test is right for the patient. Overall, the most cost effective screening method for normal risk patients at this moment systemically is the contingency screening for patients who present in the first trimester (1st trimester: Nuchal translucency, PAPP-A, and hCG measurements are used to determine risk; no further testing is recommended in women at low risk of Down syndrome; 2nd trimester: maternal serum AFP should be performed to assess risk of neural tube defects; Dr. Rappaport has more information about cost effectiveness of this method). Information surrounding NIPTs (Free Cell DNA testing) is evolving and in the future may prove to be an accepted (possibly recommended as superior) alternative for both high and low risk patients alike. Currently NIPT must be ordered through the genetics specialty at UNMH for both high and low risk patients, and so all patients interested and counseled about the risks/benefits/indications must be seen with genetics who will order the tests (9/2015). NIPTs are very accurate but, just as with MSS tests, not considered diagnostic and patients should be aware of this as part of their informed consent. Please see the latest ACOG advisory regarding Free Cell DNA testing for high and low risk women which was updated April 2015: http://www.acog.org/About-ACOG/News-Room/Practice-Advisories/ACOG-Practice-Advisory-on-Cell-Free-DNA-Screening.

[xxiv] Folic acid supplementation: A folic acid supplementation is recommended for all prenatal patients, ideally to be discussed at a preconception visit or family planning visit prior to conception. The dose recommended for low patients is between 400-800mcg daily. However, as there has been emerging research in the area of folic acid supplementation for both low and high risk patients, these recommendations will need to be updated as new data is validated (potential increased dose for patients with DM II, obesity, certain medications, as well as concern that an increase in folic acid dose may not have added benefit).
ACOG Bulletin on Preventing Neural Tube Defects, 2003, reaffirmed 2014: ACOG 400mcg for typical woman (no additional risk factors), 4g dose for hx of NTD.
IOM 1998 400mcg for typical woman (no additional risk factors)

- Institute of Medicine. Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline (1998). Accessed June 6, 2015. http://books.nap.edu/openbook.php?isbn=0309065542&page=196

UPSTF 400-800mcg for typical woman (no additional risk factors)

- UPSTF. Folic Acid to Prevent Neural Tube Defects: Preventive Medication, 2009. Accessed July 21, 2015. http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/folic-acid-to-prevent-neural-tube-defects-preventive-medication

NGC 400mcg for typical woman (no additional risk factors)

- Reaffirmed 2013. Accessed July 29, 2015. http://www.guideline.gov/content.aspx?id=3994

CDC 400-800mcg dose ("All women who have already had an NTD-affected pregnancy should consume 0.4 mg (400 micrograms) of folic acid every day when not planning to become pregnant. When these women are planning to become pregnant, they should consult with their health care provider about the desirability of following the August 1991 U.S. Public Health Service guideline. The guideline called for consumption of 4 milligrams (4000 micrograms) of folic acid daily beginning one month before they start trying to get pregnant and continuing through the first three months of pregnancy. *Although it appears that a lower dose, such as 0.4 milligrams, may have as great a beneficial effect as 4.0 milligrams, many health care providers recommend the higher dose."*)

- CDC. Folic Acid Recommendations. Accessed July 21, 2015. http://www.cdc.gov/ncbddd/folicacid/recommendations.html

[xxv] Influenza vaccine:
All patients (unless there is a contraindication): CDC and ACOG recommend giving one influenza vaccine IM prior to or during the influenza season each year (approximately October-May).
Do NOT give live vaccine.

- CDC. MMWR July 20 2013. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6207a1.htm?s_cid=rr6207a1_w#InfluenzaVaccinationPregnantWomen
- Here is a quick general reference to vaccines in pregnancy per CDC: http://www.cdc.gov/vaccines/pubs/downloads/f_preg_chart.pdf

[xxvi] Universal tuberculosis screening: After review of data from the NM DOH and discussion with the physicians from the Infectious Disease department, it was decided that due to the low incidence of active tuberculosis in New Mexico and Bernalillo County, no universal tuberculosis screening recommendation is made for pregnant woman at this time as it is not cost effective and would have an extremely low yield.

If the incidence does rise in the future and risk based or universal screening is recommended, the committee recommends either the PPD with a positive reflex to the Quantiferon Gold, or the Quantiferon Gold as the initial screening tool in order to avoid false positives and unnecessary treatment for latent TB based on a positive PPD and negative chest x-ray. The initial Quantiferon Gold screening without PPD is being done in hospitals located in high incidence regions (San Diego, CA). Risk based screening guidelines are available through the CDC

(http://www.cdc.gov/tb/topic/basics/risk.htm). As a reference, the CDC considers countries with a TB incidence rate of > 20 per 100,000 to be a "high prevalence" country and part of the patient's screening would be whether or not they have emigrated from a high prevalence country within the past 5 years (email exchange between MSlinkardPhilipp and the CDC).

Active tuberculosis rate in 2014 was 1.65/100,000 for the greater Bernalillo metro region according to NM DOH according to the DOH website (in 2007 it was 1.63/100,000, http://nmhealth.org/data/view/infectious/1549/).
[As a comparison: San Diego County reported 220 cases of active TB in 2014 (case rate of 6.9 per 100,000 population), which represents a 6% decrease from 2012 (234 cases in 2012). The number of cases in 2014 was 53% lower than 1993, the year with the highest number of cases in decades. (http://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/tuberculosis_control_program/Factsheet%202014.pdf).]

[xxvii] Postpartum visit timing: In order to meet patient's both expected and unexpected needs, support breastfeeding, screen for depression, and follow up on any intrapartum or immediate postpartum complications, all patients should be offered a 2 week follow up visit. If a 2 week follow up visit is declined and the patient is only scheduled for a 4-6 weeks postpartum visit, an effort should be made to call the patient at the 2 week postpartum interval by either the provider or the RN at the clinic site.

[xxviii] 24-28 week GDM screening: Please see prior discussion about GDM screening.

[xxix] Anemia Screening: Of note, the costs of screening tests vary. Clinical judgment should be used to determine the appropriate test.
Cost: If all tests are appropriate, HCT alone is approximately half the cost as HCT/HGB and CBC. For up to date information on test cost, the price line at UNMH is at 925 0900.

[xxx] VBAC recommendations are clearly delineated in the OB/GYN protocol prepared by Dr. Larry Leeman and approved by Dr. Eve Espey 6/15/2015 available here: http://unmobgyn.pbworks.com/w/file/fetch/97765748/TOLAC-Trial%20of%20Labor%20after%20Cesarean.pdf. Patient who are scheduled for a repeat C-section should be scheduled at the clinic site or the pre-op clinic as is most appropriate for a pre-op physical. When counseling patients for a TOLAC and/or repeat C-section, the risk calculator available through the U.S Department of Health and Human Services/Agency for Health Care Research and Quality (AHRQ) developed by Northwestern University OB/GYN as an educational tools in 2009, should be considered in order to evaluate a patient's specific TOLAC risk until a better tool is developed, with awareness that the extreme precision delineated in the percent calculation may not be reflective of such true specification of TOLAC risk and should be explained to patients as an estimate only: https://innovations.ahrq.gov/qualitytools/vaginal-birth-after-cesarean-vbac-risk-calculator. The standard stamp in PCO should be used with counseling to assure that all essential points are consistently covered. The TOLAC consent form is available here in the right hand column: https://hospitals.health.unm.edu/intranet/Forms/ClinicalForms/Index.cfm

[xxxi] Schedule the pre-op visit with the pre-op clinic if not done in house.

[xxxii] Repeat GC/Chlamydia test should be done if previously positive during the pregnancy, those at increased risk of infection (e.g., those who have a new sex partner, more than one sex partner, a sex partner with concurrent partners, or a sex partner who has a sexually transmitted infection), or if patient is <25 yo. All positive GC/Chlamydia tests should be rescreened for a test of cure in pregnancy 3-4 weeks after treatment.

- Center for Disease Control. Sexually Transmitted Diseases Treatment Guidelines, 2015. Recommendations and Reports. June 5, 2015 / 64(RR3);1-137. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6403a1.htm?mobile=nocontent&s_cid=rr6403a1_e

[xxxiii] Pediatric providers: Please refer to the "You and Your Baby's Health" booklet for a list of pediatric offices and/or the OB/GYN wiki link page with a print out of UNMH pediatric offices with maps (http://unmobgyn.pbworks.com/w/page/83785075/FrontPage; Dr. Sebasta is in the process of creating these).

[xxxiv] Multiple resources are available to clinicians for print out through PCO, the OB/GYN wiki link: http://unmobgyn.pbworks.com/w/page/83785075/FrontPage, and the "You and Your Baby's Health," which was updated fall 2015.

[xxxv] Circumcision: Basic patient information is listed in the "You and Your Baby's Health," booklet.

[xxxvi] Breastfeeding: Discuss patient's breastfeeding desires and concerns. Assure all three breastfeeding handouts have been given to patient regarding breastfeeding to assure patient is well informed and to meet hospital standards. Breast pump resources should be given at this time as well and a WIC breast pump referral as indicate. Please see this article for ICD-9 and ICD-10 codes to code for breastfeeding related issues: American Academy of Pediatrics. *Supporting Breastfeeding and Lactation: The Primary Care Pediatrician's Guide to Getting Paid*. http://www2.aap.org/breastfeeding/files/pdf/coding.pdf.

[xxxvii] TDAP: The TDAP Booster should be given with *every* pregnancy to protect both patients and their newborns. If the patient has never been vaccinated against tetanus, additional tetanus vaccines should be given (see below in ACOG recommendations).
Inform patients that family members should ask their health care providers if they should also receive the TDAP.
Timing: NM DOH and ACOG state after 20 wks, ideally between 27wks - 36wks, or immediately postpartum in the hospital.
CDC recommends that TDAP be given between 27-36 weeks.

- New Mexico Department of Health Immunization Protocols. September 2013. Accessed June 1 2015. http://nmhealth.org/publication/view/regulation/531/
- ACOG. Committee Opinion Number 566, June 2013 (Replaces No. 521, March 2012, Reaffirmed 2015). Update on Immunization and Pregnancy: Tetanus, Diphtheria, and Pertussis Vaccination. Accessed June 1, 2015. http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Update-on-Immunization-and-Pregnancy-Tetanus-Diphtheria-and-Pertussis-Vaccination
- CDC. Vaccines for Pregnant Women. Accessed June 1, 2015. http://www.cdc.gov/vaccines/adults/rec-vac/pregnant.html.

Additional information from ACOG:

- "To maximize the maternal antibody response and passive antibody transfer and levels in the newborn, optimal timing for Tdap administration is between 27 weeks and 36 weeks of gestation, although Tdap may be given at any time during pregnancy."
- "To ensure protection against maternal and neonatal tetanus, pregnant women who have never been vaccinated against tetanus should begin the three-vaccination series, containing tetanus and reduced diphtheria toxoids, during pregnancy. The recommended schedule for this vaccine series is 0, 4 weeks, and 6–12 months; Tdap should replace one dose of Td, preferably given between 27 weeks and 36 weeks of gestation."