

Priority Topics for the Assessment of Competence in Intrapartum and Perinatal Care

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Introduction

This collection of priority topics and key features for assessing competence in intrapartum and perinatal care was developed by the CFPC Working Group on the Assessment of Competence in Maternity and Newborn Care, from 2012 to 2016. It outlines what to assess to determine competence in intrapartum and perinatal care for family medicine using the CFPC's traditional approach of developing priority topics, procedures, and their key features. (see appendices A and B for an explanation of priority topics and key features).

The goal of this booklet is to enhance training and the assessment of competence in intrapartum and perinatal care during family medicine residency training.

Priority topics are the main problems/situations a competent practitioner should be able to resolve in a clinical domain (or area). Priority topics are derived through a consensus process among practitioners in the domain. Priority topics and entrustable professional activities (EPAs) are similar in that they both can represent critical activities for assessment within an area of practice, integrate multiple competencies, and are observable. However, unlike with EPAs, competence in a priority topic is defined by its key features. Key features represent the critical, or essential, steps for resolving a clinical problem/situation (priority topic) and as a result direct the assessment activities. Consequently, the priority topics and key features listed are not meant to be an exhaustive list of competencies relevant to competence, nor do they represent a checklist for determining competence.

When a trainee consistently demonstrates most of the key features across a good sample of the priority topics, you can infer that the trainee has competence in intrapartum and perinatal care. Additionally, the observation of a trainee who demonstrates competence in intrapartum and perinatal care can provide important evidence to support inference of overall competence in family medicine for the trainee.

Why these priority topics and key features were developed

The CFPC's evaluation objectives (<u>www.cfpc.ca/EvaluationObjectives/</u>) guide the assessment of competence in family medicine, at the start of independent practice, for the purposes of certification by the CFPC. They describe the skills and behaviours that indicate competence dealing with the clinical tasks and problems that make up the domain of competence to be assessed. Overall competence is an inference determined by sampling, observing, and reflecting on a trainee's demonstration of the application of the six skill dimensions (patient-centred approach, communication, clinical reasoning, selectivity, professionalism, and procedure) across various topics/situations.

Assessing competence in intrapartum and perinatal care is particularly useful for determining overall competence in family medicine. Intrapartum and perinatal care requires a trainee to demonstrate competence in all six skill dimensions in a rigorous and integrated manner. The clinical topics/situations requiring resolution in intrapartum and perinatal care necessitate high-level cognitive skills that help better differentiate competent and not-yet-competent trainees. In addition, given the direct observation that is integral to supervising residents during intrapartum and perinatal care clinical experiences, the clinical domain of intrapartum and perinatal care allows for multiple opportunities for evaluating these skill dimensions.

Through further articulation of what assessment should focus on in intrapartum and perinatal care in this booklet:

- 1. Expectations for intrapartum and perinatal care training will be clearer for trainees, assessors, and programs.
- 2. Teachers of intrapartum and perinatal care can better focus their attention and efforts on assessment, thus becoming more efficient in making judgments about trainee competence.
- 3. Feedback and learning can become more purposeful for further skills development.

How these priority topics and key features were developed

Priority topics and key features for intrapartum and perinatal care for the purpose of assessment for Canadian family medicine residents were developed using a modified Delphi approach, combining surveys and nominal group discussions in an iterative fashion. The Working Group (seven members) acted as the nominal group, generating a first list of priority topics. A second survey to a larger group of family physicians (51 of 202 responded), representative from across the country, generated another independent list.

The lists of priority topics generated by the nominal group and the larger reference group were almost identical, both in the topics named and the priorities assigned (correlation = 0.84). This list excluded normal labour and delivery as well as neonatal resuscitation as both were considered essential. A similar process was completed for non-clinical topics (e.g., team, limits, professional). The correlation between the nominal group and the validation group was similar with a correlation of 0.83. Twenty-one priority topics and three priority procedures were identified.

Key features were developed for all 24 topics through the nominal group using three iterations of discussions and consensus building and then finalized. The priority topics and key features were piloted at multiple teaching sites across Canada, which provided additional validation and insight.

The order of the priority topics listed does not reflect the frequency in which the topics appeared in the validation of the topics, but rather a logical sequence in which they would be dealt with in a clinical environment.

How to use these priority topics and key features

The priority topics, procedures, and their key features in this booklet direct the assessment of competence in intrapartum and perinatal care during family medicine residency training. They are intentionally selective and not comprehensive—it is more desirable and useful to assess what will best distinguish competent and less competent individuals. Priority topics represent a selective list of areas for assessment that help teachers/assessors direct their efforts. As key features represent the critical or essential steps for resolving a clinical situation or problem, demonstration of key features of an adequate sample of the priority topics help to infer overall competence in intrapartum and perinatal care.

As such, the priority topics, procedures and their key features are not meant to be used in a checklist approach to assessing competence in intrapartum and perinatal care. They are best used in guiding assessment efforts (sampling, observation, reflection) over time to build a case for overall competence or the lack thereof. They may also be useful in the following situations:

- For trainees:
 - Use as a guide for self-reflection on competence in intrapartum and perinatal care, and developing a learning plan, particularly prior to and during clinical experiences in maternity and newborn care
 - 0 Use as a guide for soliciting feedback from teachers/assessors
- For teachers/assessors:
 - 0 Compare and contrast materials in this booklet with your assessment strategies and adjust as necessary
 - Use as a guide for assessing your trainees, including feedback, developing questions to ask trainees, and completing field notes
 - 0 Use as a guide to help develop learning plans for your trainees
- For programs:
 - Use as a guide to plan curriculum that can adequately expose trainees to the priority topics and procedures
 - 0 Use as a guide to develop assessment strategies in intrapartum and perinatal care
 - 0 Use as a guide to develop learning plans for residents in intrapartum and perinatal care
 - Use to articulate priorities for assessment to other health care providers who provide teaching and supervision to family medicine residents in intrapartum and perinatal care

Priority topics

Normal labour and delivery

		Key Feature	Skill	Phase
1.	W a)	hen a woman ¹ presents in labour, Assess for risk factors that identify those women for whom vaginal birth is not appropriate	Clinical Reasoning Skills	History
	b)	Establish the preferred expectations for the delivery with the woman and her supports	Clinical Reasoning Skills Patient Centered Approach	Treatment/management History
2.	W	hen a woman presents in labour,		
	a)	Diagnose the stage and the phase of labour based on history and abdominal and pelvic exam	Clinical Reasoning Skills	Diagnosis
	b)	Decide whether or not to admit based on appropriate medical, social, and personal factors in order to reduce premature admissions	Clinical Reasoning Skills Selectivity	Hypothesis generation
3.	Th	roughout labour:		
	a)	Provide support and pain management, using a patient-centred approach and multiple options (e.g., mobility, different positions)	Clinical Reasoning Skills Patient Centered Approach	Treatment/management
	b)		Clinical Reasoning Skills	Treatment/management
	c)	Follow progress regularly	Clinical Reasoning Skills	Treatment/management
	d)	Avoid unnecessary or premature interventions (e.g., using uterotonics when not in active labour)	Selectivity	Treatment/management
4.	Du	uring the second stage of labour:		
	a)	Initiate pushing at the appropriate time, respecting the woman's preferred position and expulsive efforts	Clinical Reasoning Skills	Treatment/management
	b)	-	Procedure Skills	Treatment/management
5.	Im	mediately following vaginal birth:		
	a)	Care for the well newborn with skin-to-skin care, assessment, delayed cord clamping, and early initiation of breastfeeding	Clinical Reasoning Skills	Treatment/management
	b)	Assess the need for resuscitation of the newborn and manage appropriately	Clinical Reasoning Skills	Hypothesis generation Treatment/management
	c)	Assess uterine tone and bleeding, and administer prophylactic oxytocin in the third stage	Clinical Reasoning Skills	Treatment/management
	d)	Deliver the placenta, avoiding unnecessary traction	Procedure Skills	Treatment/management

¹ We are cognizant and respectful that not all pregnant individuals will identify with traditional gender roles. Our choice of the word "woman" to refer to the pregnant individual was chosen for consistency and ease throughout the document and is not intended to exclude those for whom this is not their chosen term.

	e) Assess and manage perineal injury	Clinical Reasoning Skills	Physical Exam Treatment/management
6.	Following a vaginal delivery:		
	a) Debrief with the team, including the woman and her supports, and document appropriately	Communication Skills	Follow-up
	b) Reassess the woman and baby, and review	Clinical Reasoning Skills	Follow-up
	ongoing management plans before leaving the birthing unit		

Fetal health surveillance during labour

	Key Feature	Skill	Phase
1.	Whenever a woman presents in labour, assess the risk factors and the overall context to select and initiate the appropriate method, frequency, and timing of fetal surveillance (intermittent auscultation (IA) versus electronic fetal monitoring (EFM)):	Clinical Reasoning Skills Selectivity	Hypothesis generation Treatment/management
	 Assessment of risk factors and context must be current In general, use IA for women without risk factors and EFM when risk factors are present Ensure fetal surveillance is maintained as per a standard protocol 		
2.	When reviewing the findings on fetal surveillance, always correlate fetal heart rate with uterine activity.	Clinical Reasoning Skills	Treatment/management Investigation
3.	When conducting fetal health surveillance during labour, classify and document the fetal surveillance as per standardized classification (i.e., normal, atypical, or abnormal).	Clinical Reasoning Skills Communication Skills	Diagnosis
4.	When interpreting fetal surveillance,a) Look for and recognize the abnormalities, especially the subtle ones that require immediate	Clinical Reasoning Skills	Hypothesis generation
	action b) Act promptly to resolve the situation.	Selectivity	Treatment/management
5.	When abnormal or atypical fetal surveillance is observed:		
	a) Interpret within the context of the whole pregnancy and labour (e.g., stage and progress of labour, maternal stability, maternal/fetal risk factors, duration of abnormalities)	Clinical Reasoning Skills	Diagnosis
	b) Assess for etiology and contributing factors	Clinical Reasoning Skills	Hypothesis generation
	c) Institute appropriate intrauterine resuscitation, and when abnormal fetal surveillance is not corrected by intrauterine resuscitation, institute a plan for delivery	Clinical Reasoning Skills	Treatment/management

Pain in labour

	Key Feature	Skill	Phase
1.	Prior to labour, discuss pain and pain relief with women, correcting misconceptions and providing education.	Clinical Reasoning Skills	Treatment/management
2.	For a woman in labour, use a patient-centred approach to clarify her pain experience and her emotional state, as well as her expectations and preferences for pain management.	Patient Centered Approach	Treatment/management
3.	When managing pain for a woman in labour, optimize the use and effectiveness of support and other non-pharmacological measures (e.g., hydrotherapy, TENS, ambulation).	Clinical Reasoning Skills	Treatment/management
4.	When providing pharmacological pain relief in labour, use an appropriate method (e.g., opiates, nitrous oxide, epidural anesthesia), taking into account the woman's choices, the stage of labour, available resources and possible side-effects (e.g., fetal surveillance changes, newborn respiratory depression, labour prolongation).	Clinical Reasoning Skills	Treatment/management
5.	For a woman using analgesia in labour, look for and manage side effects (e.g., maternal fever, fetal surveillance changes).	Clinical Reasoning Skills	Hypothesis generation Treatment/management
6.	When pain in labour is unusual or unresponsive to typically effective management, assess to rule out unusual or pathological causes (e.g., uterine rupture, pulmonary embolus, history of sexual abuse) that would require other interventions or approaches.	Clinical Reasoning Skills	Hypothesis generation

Labour dystocia

	Key Feature	Skill	Phase
1,	When a woman presents with possible labour, diagnose or rule out active labour, based on history and on abdominal and pelvic examination (i.e., avoid premature admission to labour and delivery).	Clinical Reasoning Skills	Diagnosis
2.	For a woman in labour:		
	a) Assess and document progress of labour by	Clinical Reasoning Skills	Diagnosis
	following cervical dilation and fetal descent.	Communication Skills	
	b) Make a diagnosis of labour dystocia based on	Clinical Reasoning Skills	Diagnosis
	lack of progress in cervical dilation in the first stage of labour and fetal descent in the second stage, and in the context of maternal and environmental factors; avoid making the diagnosis too early or too late	Selectivity	
3.	When labour dystocia is suspected, or diagnosed:		
	a) First consider and use non-pharmacological methods to treat (e.g., ambulation, continuous support, amniotomy)	Clinical Reasoning Skills	Treatment/management
	b) Systematically look for and identify possible	Clinical Reasoning Skills	Hypothesis generation
	contributing factors (i.e., uterine contractility, fetal size and presentation, pelvic architecture, maternal pain and psychological state) in order to optimize management		Diagnosis
4.	For a woman with labour dystocia that has not	Clinical Reasoning Skills	Treatment/management
	responded to appropriate non-pharmacological intervention, use an appropriate uterotonic medication, while maintaining careful surveillance of maternal and fetal well-being.		Follow-up
5.	For a woman with labour dystocia, look for and	Clinical Reasoning Skills	Hypothesis generation
	recognize the fetal and maternal indications for operative delivery.		Diagnosis

Vacuum assisted delivery

	Key Feature	Skill	Phase
1.	For a woman in labour, look for signs that she may need an assisted delivery (e.g., labour dystocia, atypical or abnormal fetal surveillance, maternal fatigue) and, when these signs are present, start the appropriate preparations, including a backup plan with additional help as necessary.	Clinical Reasoning Skills	Hypothesis generation Treatment/management
2.	When assisted delivery is contemplated, assess for contraindications (e.g., any presentation other than cephalic, cervix not fully dilated, unengaged head, < 34 weeks) and, when present, make appropriate alternative plans for delivery.	Clinical Reasoning Skills	Hypothesis generation Treatment/management
3.	When an assisted delivery is indicated, discuss the options with the woman, obtain informed consent, and prepare the team.	Communication Skills Patient Centered Approach	Treatment/management
4.	When performing an assisted delivery, use a standardized approach (e.g., the A to J mnemonic from ALARM).	Clinical Reasoning Skills	Treatment/management
5.	When an assisted delivery is not progressing as expected, do not persist with excessive efforts, but abandon the procedure and initiate the alternative backup delivery plan.	Selectivity	Treatment/management
6.	Following an assisted delivery, examine the woman and the newborn for signs of trauma (e.g., high vaginal laceration, third-degree tear, subgaleal bleeding) or need for further care.	Clinical Reasoning Skills	Physical Exam Follow-up
7.	At the appropriate time following an assisted delivery, debrief with the woman (and her supports), and with the team. Document thoroughly.	Communication Skills	Follow-up

Vacuum assisted delivery—procedure skill

	Key Feature	Skill	Phase
1.	When considering a vacuum assisted delivery, confirm full cervical dilatation and assess the station and position of the head to ensure that the procedure is safe and likely to succeed.	Procedure Skills	Treatment/management
2.	Prior to placing the vacuum, optimize the chance of success by ensuring adequate analgesia, emptying the woman's bladder, and engaging the woman and her supports in the procedure. Check that the equipment is working and that a backup plan is in place.	Procedure Skills Communication Skills	Treatment/management
3.	When applying the vacuum cup, ensure that the position is correct, there is no entrapment of maternal tissue, and appropriate vacuum pressure is being applied.	Procedure Skills	Treatment/management
4.	When performing a vacuum assisted delivery, apply traction during maternal pushing and pull firmly but not excessively, without pivoting. Apply traction in the direction of the pelvic curve, initially downward and finally upward.	Procedure Skills	Treatment/management
5.	When applying traction, assess descent on each pull.	Procedure Skills	Hypothesis generation
	Reassess the plan if there are indications that the procedure will not succeed:		Treatment/management
	 No progress after two pulls with a properly positioned cup and good traction Three pop-offs without obvious cause Delivery not imminent after four contractions Delivery not imminent after 20 minutes of vacuum application 		

Shoulder dystocia

	Key Feature	Skill	Phase
1.	For all deliveries, assess risk factors for shoulder	Clinical Reasoning Skills	Hypothesis generation
	dystocia, develop a plan of management according to the risks, and adjust the preparations according to the evolving risks.		Treatment/management
2.	For all deliveries, anticipate and remain vigilant for	Selectivity	Hypothesis generation
	the signs of impending shoulder dystocia and, when appropriate, prepare the woman and the team for the possibility of shoulder dystocia.	Communication Skills	Treatment/management
3.	During the second stage of labour, recognize	Clinical Reasoning Skills	Diagnosis
	shoulder dystocia promptly when it occurs, communicate its presence clearly to the team, including the woman, and, working as a team, use appropriate manoeuvres to resolve it.	Communication Skills	Treatment/management
4.	After the shoulder dystocia is resolved:		
	a) Examine the mother and the newborn for signs	Clinical Reasoning Skills	Physical Exam
	of trauma		Follow-up
	b) Debrief with the team, including the woman and her supports	Communication Skills	Follow-up
	c) Document the manoeuvres used and the timing of events (including head to shoulder time)	Communication Skills	Follow-up

Shoulder dystocia—procedure skill

	Key Feature	Skill	Phase
1.	When a shoulder dystocia occurs, inform the team (including the woman), call for additional assistance, and immediately implement an accepted algorithm to resolve the dystocia.	Procedure Skills Communication Skills	Treatment/management
2.	When managing a shoulder dystocia, avoid actions that may increase the shoulder impaction (e.g., pressure on the fundus, maternal pushing when the shoulder remains impacted) or that may injure the baby (e.g., traction on the head, pivoting the head to rotate the shoulders). Coach the woman to push only when instructed.	Procedure Skills	Treatment/management
3.	 When managing a shoulder dystocia, use a systematic approach that includes: External manoeuvres: hyperflexion of the hips (McRoberts), suprapubic pressure on the anterior shoulder, all fours position Internal manoeuvres: shoulder rotations (Rubin, Woods, delivery of posterior arm Episiotomy if required to perform internal manoeuvres 	Procedure Skills	Treatment/management
4.	When managing a shoulder dystocia, complete one manoeuver before encouraging more maternal pushing. Then, if it does not work, move rapidly to the next manoeuver before the next pushing effort.	Procedure Skills	Treatment/management
5.	If initial manoeuvres are unsuccessful, repeat them, perfecting the technique, and focusing on the manoeuvres that are most likely to be successful (e.g., removal of posterior arm, changing maternal position). Call for additional assistance.	Procedure Skills	Treatment/management

Postpartum hemorrhage

	Key Feature	Skill	Phase
1.	For all pregnant women, identify risk factors for postpartum hemorrhage (PPH; e.g., grand multiparous, prolonged labour, anticoagulants) and prepare accordingly.	Clinical Reasoning Skills	Hypothesis generation Treatment/management
2.	Manage the third stage of labour with a prophylactic uterotonic, consideration of controlled cord traction, and assessment of uterine tone after placental delivery.	Clinical Reasoning Skills	Treatment/management
3.	Following all births, closely monitor for ongoing blood loss (both visible and occult) in order to accurately estimate the total blood loss, and to promptly recognize and diagnose a PPH.	Clinical Reasoning Skills	Follow-up
4.	 When a diagnosis of PPH is made: a) Identify whether the woman is stable or unstable and adjust management accordingly b) Activate the team early to provide extra support c) Look for correctible etiologies, in order to treat, specifically: Poor uterine tone (uterotonics) Retained products of conception (remove) 	Clinical Reasoning Skills Selectivity Communication Skills Clinical Reasoning Skills	Diagnosis Treatment/management Treatment/management Hypothesis generation Diagnosis
	 Trauma (repair) Distended bladder (urinary catheter) Coagulation deficit (correct) d) Monitor closely to anticipate and recognize the need for further intervention 	Clinical Reasoning Skills	Follow-up
5.	For a PPH that has stabilized, continue to monitor over an extended period until recurrence is unlikely.	Clinical Reasoning Skills	Follow-up
6.	For a woman who has had a PPH, provide counselling for subsequent pregnancies.	Clinical Reasoning Skills	Follow-up

Perineal lacerations—procedure skill

	Key Feature	Skill	Phase
1.	After every delivery, assess for the presence, location, and degree of perineal laceration, including a rectal exam when appropriate. Distinguish between those that need repair and those that do not.	Procedure Skills	Treatment/management Diagnosis
2.	When a perineal laceration occurs:		
	a) Ensure that optimal conditions (e.g., assistance, lighting, retraction, hemostasis, analgesia) are present for assessment and repair	Procedure Skills	Treatment/management
	 b) Identify complicated perineal injury (e.g., third- or fourth-degree tear, high vaginal laceration) and consider the need for assistance or consultation for the repair 	Procedure Skills	Treatment/management Diagnosis
	c) Repair lacerations using techniques that will reduce the risk of complications (e.g., bleeding, infection, incontinence, pain)	Procedure Skills	Treatment/management
3.	In the presence of a second-degree perineal laceration, repair using a systematic approach that includes:	Procedure Skills	Treatment/management
	• Identifying key anatomic structures—apex of laceration, hymenal ring, perineal muscles, intact anal sphincter		
	• Securing the apex and aligning the hymen and the perineal body, then suturing the vaginal mucosa from apex to hymen		
	 Suturing the perineal muscles Suturing the skin or planning to let heal by secondary intention 		
4.	Following the repair of perineal laceration, re- examine for completeness of repair and hemostasis. This may include a rectal examination.	Procedure Skills	Treatment/management

Peripartum fever

	Key Feature	Skill	Phase
1.	When a labouring or postpartum woman has a fever, determine whether the cause is an infection (e.g., chorioamnionitis, endometritis, pyelonephritis) or not (e.g., epidural, work of labour), and re-evaluate the diagnosis regularly.	Clinical Reasoning Skills	Diagnosis
2.	When a labouring or postpartum woman has a suspected infection:		
	a) Anticipate the possible impacts of the infection on the woman and the fetus/neonate	Clinical Reasoning Skills	Hypothesis generation
	b) Conduct appropriate investigations, maternal monitoring, and fetal surveillance or newborn assessment	Clinical Reasoning Skills	Investigation
	c) Initiate treatment without delay	Selectivity	Treatment/management
3.	When chorioamnionitis is suspected, treat empirically and aggressively (e.g., IV broad-spectrum antibiotics), even for those who have received GBS antibiotic prophylaxis, and formulate a plan for delivery.	Selectivity	Treatment/management
4.	For all postpartum women:		
	a) Identify those at higher risk of infection (e.g., long labour, Caesarean section)	Clinical Reasoning Skills	Hypothesis generation
	b) Recognize early signs of infection	Clinical Reasoning Skills	Diagnosis
	c) Advise regarding symptoms and when to seek care	Clinical Reasoning Skills Communication Skills	Treatment/management

	Key Feature	Skill	Phase
1.	For a woman presenting with antepartum bleeding, first assess the stability of both the woman and the fetus, as urgent management must begin for unstable patients before the exact cause of the bleeding has been confirmed.	Clinical Reasoning Skills	Diagnosis
2.	If the woman with antepartum bleeding is unstable or if there is suspected fetal compromise,		
	a) Resuscitate immediately	Selectivity	Treatment/management
	b) Mobilize the necessary resources for urgent	Communication Skills	Treatment/management
	c) Monitor the situation	Clinical Reasoning Skills	Treatment/management
	d) Identify the cause of the bleeding	Clinical Reasoning Skills	Diagnosis
3.	 While managing a woman with antepartum bleeding, assess to diagnose the cause of the bleeding, using methods that minimize risks of harm, to recognize potentially life threatening causes: Obtain history (e.g., onset, quantity of bleeding, presence of pain, trauma) Determine placental location by ultrasound (previous or current) prior to vaginal exam (do not perform vaginal exam unless placenta previa is ruled out) Assess the uterus (e.g., activity, tone, tenderness) and fetal well-being Use other diagnostic techniques as indicated (e.g., speculum exam) 	Clinical Reasoning Skills	Diagnosis
4.	For a woman with antepartum bleeding who is stable with normal fetal surveillance, provide ongoing assessment and management based on the diagnosis and the gestational age (e.g., manage Rh status, administer corticosteroids for fetal lung maturity). Decide whether hospitalization or transfer is indicated and the likely mode of delivery.	Clinical Reasoning Skills	Treatment/management Diagnosis
5.	Following a resolved episode of antepartum bleeding, inform the woman and her supports about the risks of antepartum bleeding in current and in subsequent pregnancies, and about strategies to minimize the risk.	Clinical Reasoning Skills	Follow-up

Antepartum bleeding—after 20 weeks gestation

Non-cephalic fetal presentation

	Key Feature	Skill	Phase
1.	For any woman in the third trimester or in labour, determine the exact fetal presentation using appropriate techniques (e.g., Leopold's manoeuvers, vaginal exam if indicated, ultrasound).	Clinical Reasoning Skills	Diagnosis
2.	When a non-cephalic presentation has been identified pre-labour, discuss, with the woman and her supports, alternative plans or possibilities for delivery (e.g., external cephalic version, trial of labour, planned Caesarean section) according to the presentation. Inform the woman of possible complications (e.g., cord prolapse) and appropriate actions.	Clinical Reasoning Skills	Treatment/management Follow-up
3.	When a non-cephalic presentation is identified in labour, discuss the delivery options with the woman, while seeking consultation and team support as necessary, and while initiating preparations for a possible Caesarian section.	Clinical Reasoning Skills	Treatment/management Referral
4.	When facilitating an imminent unavoidable breech delivery, optimize the process by avoiding traction on the fetus, ensuring that the back remains up, and ensuring head flexion through delivery.	Procedure Skills	Treatment/management
5.	After a vaginal breech delivery, anticipate that the newborn is more likely to require resuscitation.	Clinical Reasoning Skills	Hypothesis generation

	Key Feature	Skill	Phase
1.	For pregnant women presenting with vaginal fluid loss, look for and diagnose pre-labour rupture of membranes using history, abdominal exam to verify presentation, speculum exam (avoid doing vaginal examination unless indicated for management), and fluid inspection and analysis (e.g., nitrazine, ferning test).	Clinical Reasoning Skills	Hypothesis generation Diagnosis
2.	For a woman with signs and symptoms suggestive of pre-labour rupture of membranes (PROM) but negative confirmatory tests, do not exclude the possibility of PROM, and plan appropriate fetal/maternal surveillance for signs of fever and/or infection.	Clinical Reasoning Skills Selectivity	Hypothesis generation Treatment/management
3.	For all women with PROM at term, rule out contraindications to vaginal delivery, and, if there are no contraindications, offer induction of labour through an informed discussion within the context of risk factors (e.g., GBS status), patient preference,	Clinical Reasoning Skills	History Treatment/management
	and system demands (e.g., staffing availability).		
4.	In a woman with PROM in whom labour has not been induced:		
	a) Monitor for signs of infection (e.g., fever, fetal tachycardia, odour) even for those patients on prophylactic antibiotics	Clinical Reasoning Skills	Diagnosis
	b) Treat suspected or confirmed chorioamnionitis aggressively and early (e.g., IV antibiotics), and do not rely on the previous prophylactic treatment	Selectivity	Treatment/management
5.	In a woman with preterm PROM: a) Initiate treatment as per local protocol (e.g.,	Clinical Reasoning Skills	Treatment/management
	admission, steroids, IV antibiotics, and monitoring)	Current Lenzenning Claud	
	 b) Plan appropriate definitive treatment depending on gestational age and the capacity of the facility and team, and considering the indications for consultation or for transfer to another care facility 	Clinical Reasoning Skills	Referral
6.	When a baby is born after pre-labour rupture of membranes, assess for signs of sepsis, and initiate	Clinical Reasoning Skills	Treatment/management
	treatment promptly if sepsis is suspected.	Selectivity	

Pre-labour rupture of membranes

Preterm labour

	Key Feature	Skill	Phase
1.	When assessing a pregnant woman who is not in labour, look for risk factors for premature labour, and manage the treatable factors to reduce risk whenever possible.	Clinical Reasoning Skills	History Treatment/management
2.	When caring for a pregnant woman who is not in labour, educate her and her supports about signs and symptoms of preterm labour and how to seek help.	Clinical Reasoning Skills Communication Skills	Treatment/management
3.	For a woman presenting in suspected preterm labour, confirm the presence or absence of labour, using appropriate techniques (e.g., assessment of contractions, sterile speculum exam, fetal fibronectin, cervical assessment).	Clinical Reasoning Skills	Investigation
4.	For a woman in preterm labour, manage according to the gestational age and fetal surveillance to minimize neonatal morbidity and mortality by:	Clinical Reasoning Skills	Treatment/management
	• Mobilizing the team to ensure availability of resources, including early consultation, that may be needed for the mother and the infant		
	 Administering appropriate medications (e.g., antenatal corticosteroids, tocolytics, antibiotics, magnesium sulphate) 		
	 Arranging for transfer if necessary, at the appropriate time 		
5.	Following the birth of a preterm infant, particularly one who requires intensive care, provide support and advocacy for the woman and family, in the context of an ongoing therapeutic relationship.	Communication Skills Patient-centered Approach	Treatment/management Follow-up

	Key Feature	Skill	Phase
1.	In a woman who has had a Caesarean section, assess the risks and benefits of a trial of labour after Caesarian (TOLAC) and discuss in order to identify those who are good candidates, those who are not good candidates, or where it would be contraindicated. Document the discussion, including risks and benefits identified.	Clinical Reasoning Skills Communication Skills	Diagnosis Treatment/management
2.	For a woman who is a candidate for TOLAC, offer TOLAC and help her make an informed decision by fully discussing the risks and advantages while showing flexibility and understanding of her preferences and concerns.	Clinical Reasoning Skills Patient-centered Approach	Treatment/management
3.	In a woman who has had a Caesarean section and who goes into labour, be flexible in the management approach and adapt it to the circumstances, while still respecting the plans and preferences of the woman as much as possible (e.g., manage a spontaneous precipitous labour in a woman who had planned a repeat Caesarean section, discuss conversion of a planned TOLAC to a Caesarean section).	Clinical Reasoning Skills Patient-centered Approach	Treatment/management
4.	Before planning or managing a TOLAC, ensure that the resources necessary for an unexpected immediate operative delivery are available and in place, ensure that the woman and her supports are well prepared for the complications that could necessitate this eventuality, and that all discussions and decisions about the TOLAC have been fully documented.	Clinical Reasoning Skills Communication Skills	Hypothesis generation Treatment/management
5.	For a woman choosing a TOLAC, provide appropriate maternal and fetal surveillance, close monitoring of the progress of labour, and careful use of induction and uterotonics if indicated.	Clinical Reasoning Skills	Treatment/management
6.	When managing a TOLAC, carefully assess maternal and fetal well-being and recognize any signs of imminent or actual uterine rupture requiring maternal and fetal resuscitation and urgent conversion to Caesarean section if needed.	Clinical Reasoning Skills	Diagnosis

Trial of labour after Caesarian

Induction of labour

	Key Feature	Skill	Phase
1.	When considering induction of labour, specifically assess the factors that will influence the decision (e.g., accurate expected date of delivery, indications, contraindications, cervical ripeness, maternal preference) and document the factors clearly to provide justification for decisions.	Clinical Reasoning Skills Communication Skills	Diagnosis Treatment/management
2.	When planning induction of labour:		
	a) Induce labour only when there is a compelling and convincing indication and no contraindication	Clinical Reasoning Skills	Treatment/management
	b) Prioritize and schedule the induction based on indication and resources	Selectivity	Treatment/management
	c) Select the facility with appropriate resources to manage fetal and maternal needs	Clinical Reasoning Skills	Treatment/management
3.	When recommending induction of labour, obtain	Clinical Reasoning Skills	Treatment/management
	and document clear and detailed informed consent from the woman for accepting or declining the induction.	Communication Skills	
4.	When inducing labour:		
	a) Select the appropriate method of cervical ripening (e.g., balloon catheters, prostaglandins) and/or induction (e.g., prostaglandins, oxytocin), based on obstetrical and medical history, Bishop score, patient preference, and team considerations.	Clinical Reasoning Skills	Treatment/management
	b) Assess the effect of the induction on maternal and fetal well-being.	Clinical Reasoning Skills	Treatment/management
	c) Select women for whom the outpatient management of cervical ripening is appropriate.	Clinical Reasoning Skills	Treatment/management
5.	During induction of labour, look for and manage	Clinical Reasoning Skills	History
	complications of induction (e.g., tachysystole, abnormal fetal surveillance).		Treatment/management
6.	When a selected method of induction is unsuccessful, modify the management plan accordingly.	Clinical Reasoning Skills	Treatment/management

Peripartum mental health

	Key Feature	Skill	Phase
1.	Enquire about the mental health of all women throughout the peripartum period, assessing to identify discrete signs or symptoms or factors leading to a higher risk (e.g., substance abuse, intimate partner violence, previous mental health disorder, history of sexual abuse), and add an appropriate mood assessment tool (e.g., Edinburgh Postnatal Depression Scale, Generalized Anxiety Disorder scale) when indicated.	Clinical Reasoning Skills	History
2.	When concerns are raised about mental health in the	Clinical Reasoning Skills	History
	peripartum period, actively explore the situation with the woman and her supports, and provide education about normal and common psychological changes during pregnancy, as well as the signs that may suggest a mental health disorder.		Treatment/management
3.	For women in the peripartum period with an apparent mental health disorder, assess to rule out possible underlying causative or contributing medical conditions (e.g., anemia, thyroid dysfunction).	Clinical Reasoning Skills	Diagnosis
4.	For a woman with a mental health disorder in the peripartum period, determine the risk of harm to self, infant, or others. When this risk is present, ensure urgent management to reduce the risk of harm. Educate the woman and her supports regarding a possible rapid escalation of symptoms, and available resources.	Clinical Reasoning Skills	Diagnosis Treatment/management
5.	For a woman with a mental health disorder in the peripartum period:		
	 a) Maintain the therapeutic relationship, provide counselling, refer to the available resources, and advocate for rapid access when needed 	Communication Skills	Treatment/management Referral
	 b) Use medication if indicated, balancing the risk of untreated mental health issues against the risk of medications to the fetus or newborn, and recognizing the benefits of continued breastfeeding if desired 	Clinical Reasoning Skills	Treatment/management

Gestational hypertension/preeclampsia

	Key Feature	Skill	Phase
1.	At the beginning of all pregnancies, identify and assess the risk factors for gestational hypertension/preeclampsia and consider initiating preventive therapy for those at high risk.	Clinical Reasoning Skills	Diagnosis Treatment/management
2.	Consider the diagnosis of preeclampsia at prenatal visits, even if the blood pressure is not obviously elevated, and especially when the woman has new poorly-defined constitutional symptoms.	Clinical Reasoning Skills	Hypothesis generation
3.	When preeclampsia is suspected, look for confirmatory evidence (symptoms, signs, basic investigations) to establish or rule out the diagnosis. Classify according to current nomenclature and re- assess regularly for progression of disorder.	Clinical Reasoning Skills	Diagnosis Treatment/management
4.	For gestational hypertension or non-severe preeclampsia, follow closely and manage according to maternal and fetal well-being and gestational age.	Clinical Reasoning Skills	Treatment/management Follow-up
5.	For a woman with a diagnosis of preeclampsia with adverse conditions or severe preeclampsia, manage actively by:	Clinical Reasoning Skills	Treatment/management
	 Initiating MgSO4 in a timely fashion and other medications as appropriate (e.g., anti- hypertensives) 		
	 Assessing the need for prompt delivery, and arranging for delivery and/or consultation when indicated 		
6.	For any woman with gestational hypertension or preeclampsia who has delivered, continue management and monitor for progression or complications throughout the postpartum period.	Clinical Reasoning Skills	Follow-up

Gestational diabetes

	Key Feature	Skill	Phase
1.	In all pregnant women, screen for gestational diabetes using the appropriate test at the appropriate gestational age, and interpret the results according to guidelines for gestational diabetes (i.e., not regular diabetic guidelines).	Clinical Reasoning Skills	Diagnosis
2.	For a woman with gestational diabetes, plan for blood glucose control to avoid extremes of hyperglycemia and hypoglycemia, and do not confuse treatment targets and guidelines with those for non- gestational diabetes.	Clinical Reasoning Skills	Treatment/management
3.	For a pregnant woman who is receiving specific care for diabetes (gestational or pre-gestational) from other providers, maintain your planned antepartum care for the patient, and integrate the recommended diabetic care into the overall management plan.	Clinical Reasoning Skills	Treatment/management Follow-up
4.	When caring for a woman with gestational diabetes, closely monitor fetal growth and well-being (e.g., ultrasound, non-stress tests), as well as the maternal status, in order to recognize indications for induction.	Clinical Reasoning Skills	Follow-up
5.	When providing intrapartum care to a woman with gestational diabetes:		
	 a) Anticipate potential fetal macrosomia and if present, anticipate and plan for labour dystocia and shoulder dystocia 	Clinical Reasoning Skills	Treatment/management
	 Manage blood sugars actively, using insulin when indicated for optimal care, continuing as necessary into the postpartum 	Clinical Reasoning Skills	Treatment/management
6.	Following a gestational diabetic's delivery:		
	a) Monitor the newborn closely for hypoglycemia, in the immediate postpartum period	Clinical Reasoning Skills	Treatment/management
	b) Plan to include screening for diabetes in the postpartum care of the woman	Clinical Reasoning Skills	Follow-up

Breastfeeding

	Key Feature	Skill	Phase
1.	During prenatal care, enquire about newborn feeding plans. Promote exclusive breastfeeding, help establish reasonable expectations, and provide adequate information to develop a plan for feeding that respects the mother's preferences and informed choice.	Clinical Reasoning Skills Patient-centered Approach	History Treatment/management
2.	For a woman who is not breastfeeding her newborn, provide support for her decision, and provide information about feeding with human milk substitute.	Clinical Reasoning Skills Patient-centered Approach	Treatment/management
3.	For all pregnant women, assess and, when indicated, examine for issues that may affect breastfeeding (e.g., inverted nipples, previous surgery), and suggest interventions and resources.	Clinical Reasoning Skills	Diagnosis Treatment/management
4.	For all births, including Caesarean section, facilitate early skin-to skin contact and a comfortable and effective latch.	Clinical Reasoning Skills	Treatment/management
5.	When breastfeeding is challenging, first assess the latch and determine whether it is effective, and then look for other barriers to successful breastfeeding (e.g., lack of support, postpartum depression, breast pain, tongue tie, prematurity).	Clinical Reasoning Skills	History Physical exam
6.	When any concerns or difficulties with breastfeeding arise, especially in the immediate newborn period, facilitate early access to suitable professional support.	Clinical Reasoning Skills	Treatment/management Referral
7.	 Facilitate the continuation of breastfeeding when conditions arise, such as: The woman has a breast infection or a nipple lesion The woman or newborn requires medications, investigations, or hospitalization 	Clinical Reasoning Skills	Treatment/management
8.	When a newborn/infant is exclusively breastfed, educate the family regarding normal weight gain, stool and voiding patterns, and how to assess the adequacy of feeding.	Clinical Reasoning Skills	Treatment/management

First week of life

	Key Feature		Skill	Phase
1.	W	hen caring for newborns:		
	a)	Look for and recognize the subtle signs that they may be unwell (e.g., respiratory status, colour, tone, feeding), assess for etiology (e.g., hypoglycemia, maternal drug effect, sepsis) and arrange for diagnostic tests and ongoing care.	Clinical Reasoning Skills	Diagnosis
	b)		Clinical Reasoning Skills	Hypothesis generation
	c)	Perform a thorough physical examination (e.g., palate, pulses, heart sounds, hips, testes, anus) to detect congenital abnormalities.	Clinical Reasoning Skills	Physical exam
2.	Pri	or to discharging any newborn, ensure the	Clinical Reasoning Skills	Treatment/management
	following:			
	0	Adequate feeding plan has been established		
	0	Newborn screening (e.g., bilirubin, metabolic,		
	0	hearing test) has been completed or arranged Family has been educated regarding care of the newborn (e.g., car seat, infant sleeping, acceptable weight loss) respecting cultural differences		
	0	Follow-up has been planned with a health care professional within a few days of discharge, especially for firstborns, families with psychosocial stressors, or if there were any perinatal issues		
3.	hea cor full	hen the parents (or other caregivers, including alth care professionals) of a newborn express acern that the baby is unwell, listen carefully, and ly assess the baby to detect any subtle indicators of ious illness (e.g., sepsis).	Selectivity	Diagnosis

Working in teams

	Key Feature	Skill	Phase
1.	Acknowledge all team members (including the patient and her supports) and as well as their roles and contributions, and respectfully listen to and respond to others' opinions, especially when they differ from your own.	Communication Skills Professionalism	Treatment/management
2.	Promote collaboration by accepting and giving help where required, contribute where most useful even when not in primary roles, and follow the leadership of others or assume the leadership for a defined period or situation.	Professionalism	Treatment/management
3.	Respect the professional autonomy of the individual members of the team, while promoting collaborative decisions and actions for the benefit of the patient.	Professionalism	Treatment/management
4.	When a team is working under difficult conditions, try to promote and maintain the effectiveness of the team by remaining calm, helping others in their roles and tasks whenever appropriate, resolving differences actively by considering the best interests of the patient, and by inspiring confidence whenever possible.	Professionalism Clinical Reasoning Skills	Treatment/management
5.	Maintain clear verbal and written communications (including documentation), confirm that the information has been received (closed loop), and facilitate the participation of all in debriefing sessions.	Communication Skills	Treatment/management

Limits—practising according to personal and facility limits

	Key Feature	Skill	Phase
1.	When a woman requires care that is beyond your personal or facility limits, advocate firmly to obtain this care in a timely fashion from an appropriate resource.	Professionalism	Treatment/management
2.	Whenever the clinical course of a woman is not going as expected, review the provisional diagnosis and management plan, consider alternatives, and change if necessary (e.g., regularly reassess/re- evaluate potentially unstable patients, reflect on your clinical decisions).	Clinical Reasoning Skills	Treatment/management
3.	Whenever you recognize that a diagnosis or management plan needs to be modified:		
	a) Seek additional information or help without delay.	Clinical Reasoning Skills	Referral
	b) Discuss the changes with the woman, her supports, and the team.	Communication Skills Clinical Reasoning Skills	Treatment/managemen
	c) Document the changes and the discussion.	Communication Skills	Treatment/management
1.	When caring for pregnant women, reflect on clinical experiences to identify gaps in clinical skills, and	Professionalism	Diagnosis Treastment / man accuracy
	close those gaps with self- or group-learning.		Treatment/management
5.	After an unexpected or unusual event, debrief effectively with appropriate team members, including the woman and her supports.	Communication Skills	Follow-up

Appendix A: Priority topics and how they were identified

Competence is not really defined by what you know—it is much more a question of what you can do, or what problems you can deal with in a competent fashion. Acting in a competent fashion means doing something the right way, at the right time, for the right reasons, and not just doing it.

Knowledge is critical to competence but you do not need to know everything to be competent, even if that were ever possible. You do need to know enough and you do need to know how to use your knowledge in a skilled fashion to deal with a problem well, to recognize when you reach your limits, to recognize when you must do more, how to go about it, and so on. Once again, the how, why, where, and when, and the clinical reasoning and other skills used, are much greater indicators of competence than knowledge or the clinical outcomes themselves. Competent practitioners can have poor outcomes, and not very competent practitioners can have good outcomes. To really know whether someone is competent, you must see how they do things, how they get to the outcomes, and not look only at the outcomes themselves.

Therefore, defining competence for the purposes of assessment in a domain of care is a two-step approach. First, we determine the most important problems that competent practitioners must be able to deal with. We do not determine everything that they might be called upon to deal with, but restrict our list to a limited number that all agree to as being most important—hence, the priority topics. The second step is to determine how each topic is dealt with in a competent fashion, which is determined by a key feature analysis, as described in Appendix B.

The priority topics for intrapartum and perinatal care were developed using a modified Delphi approach, combining surveys and discussions in an iterative fashion. The Working Group acted as the nominal group, generating a first list of priority topics. A second survey to a much larger group of practitioners generated an independent list of priority topics. The lists were almost identical, both in the topics named and the priorities assigned (correlation = 0.84), so it was hypothesized that:

- 1. The final priority topics list (see Appendix B) is a valid list.
- 6. An assessment of competence in intrapartum care based on these priority topics (and their key features) will be effective and valid indicators of overall competence in this domain.

This is not to say that assessment of other topics would never be useful. It is to say that success is more likely if assessment concentrates on the priority topics and their key features.

Appendix B: Key features and how they were derived

Key features represent the critical, or essential, steps for resolving a clinical situation or problem. If you think carefully about it, for any particular problem we tend to make mistakes, miss things, or perform poorly only at certain points in the clinical encounter, and that these points are specific to the problem at hand. Even if we don't make mistakes, some parts of our encounter with a patient or a problem are more difficult to do well, or may be most critical to doing well. The overall objective of the key features approach is two-fold:

- 1. Identify these essential or critical steps specific to the problem.
- 7. Determine why they are difficult and what processes are involved in succeeding or not.

We should remember that certain problems and situations require higher cognitive skills, so tend to discriminate better between competent and non-competent candidates, and are better predictors of overall competence. The big five are:

- 1. Diagnosing, especially differential, is more indicative of competence than treatment.
- 8. Gathering the right data is more indicative than interpreting given data.
- 9. Dealing with undifferentiated problems requires higher levels of competence than dealing with clearly defined problems.
- 10. Acting in a selective, problem-specific fashion is more indicative than acting in a routine fashion.
- 11. Retrieving and using knowledge appropriately is more indicative than simply possessing and regurgitating knowledge.

On the other hand, the treatment of some clearly defined critical situations may be indicative of competence in the domain in question. The take-home message is: assessment should always be appropriate and carefully matched to the real determinants of competence for the situation being assessed. The key feature approach will help ensure that the clinical situation and the assessment are well matched.

As a general rule, key features are observable actions, they are not simple knowledge. They provide clear direction to a preceptor about what cases should be assessed, what skills to look for in these cases, and what important considerations distinguish competent or non-competent performances.

Key features are generated from clinical experiences and not references. The number of key features will vary greatly from one topic to another, essentially determined by the number of different elements that are considered to be fundamental to the competent resolution of that clinical problem. These are determined by a reflective and iterative process, using a group of practising peers. The approach is intentionally selective, covering only what is important.

Why bother with key features

The content area necessary to assess competence in any domain is usually vast; opportunities and time available for assessment are limited. This means that we can't test everything—in fact, we can only test very little. We can infer that supervision and assessment time should concentrate on the aspects of the topics or situations that discriminate the most between the competent and the non-competent physician. To sum up, we need a list of

priority topics for assessment and a list of key features for each topic that will help orient the development of any assessment.

Priority topics and key features have been used to develop various examinations in Canada. Test items and examinations based on these topics and features have been shown to be superior discriminators where predicting competence is concerned. They are also helping to redirect the in-training assessment in family medicine in Canada toward a competency-based approach. They were found to be extremely useful aids for teaching and self-directed learning. It is the CFPC's aim to make them one of the essential curricula components of all post-graduate training for Canadian family physicians.

Developing key features

Key features usually go through three or four iterations during development, being modified and accepted or rejected by the peer review process. This multiple iteration approach is standardized and effective for making sure that the clarity and selectiveness of the final iterations meet our purposes for assessment—it is hard to achieve this without going through the process.² You can find the priority topics and key features for family medicine at <u>www.cfpc.ca/EvaluationObjectives/</u>.

² Lawrence K, Allen T, Brailovsky C, Crichton T, Bethune C, Donoff M, et al. Defining competency-based evaluation objectives in family medicine: key-feature approach. *Can Fam Physician* 2011;57(10):e373-80.