



## Taonga Tuku Iho Health Questions

Taonga Tuku Iho health questions were developed as part of the ADAPTE process (adaptation phase). These questions clarify the specific purpose and parameters of the topic for the best practice guide. The questions were set with consideration of the population impacted by preterm birth, the healthcare setting and health professional who will use the guide, the interventions of interest, and the expected outcomes including their impact on equity in Aotearoa.

The questions were developed by the Taonga Tuku Iho Lead Authors and were reviewed and approved by the Taonga Tuku Iho Organising Committee. A total of 194 health questions across 37 main topics were identified for consideration.

*Health questions marked with an \* were identified as requiring specific focus on issues relating to equity including those relevant to ethnicity, culture, race, language, place of residence, socioeconomic status, age, religion, education, and personal characteristics/relationships.*

### Preconception care

#### Whole population

- Are there public health initiatives available to educate wāhine/people and whānau about preterm birth, its causes and risk factors? \*
- What is the impact of public health education initiatives on preterm birth risk? \*
- What culture-specific preconception advice initiatives are available that may impact on preterm birth, including kaupapa models of health and wellbeing? \*
- What is the impact of culture-specific preconception advice initiatives on preterm birth, including kaupapa models of health and wellbeing? \*
- What preconception lifestyle changes can impact preterm birth risk? \*
- Who should provide preconception advice to reduce the risk of preterm birth? \*
- How should preconception advice be provided to reduce the risk of preterm birth? \*
- What preconception advice should be provided to reduce the risk of preterm birth? \*

#### Wāhine/people identified to be at high risk of preterm birth (spontaneous and provider-initiated)

- What risk factors for preterm birth can be identified prior to pregnancy?
- Which risk factors require referral for specialist review prior to pregnancy?
- Who should provide specialist review for preconceptual counselling to wāhine/people at high risk of preterm birth?
- What preconception advice, including lifestyle changes, should be given to reduce the risk of preterm birth? \*

- What pre-pregnancy risk factors are modifiable prior to pregnancy and what pre-pregnancy interventions should be considered? \*
- What culture-specific initiatives are available for wāhine/people at high risk of preterm birth, including kaupapa models of health and wellbeing? \*
- What is the impact of culture-specific initiatives for wāhine/people at high risk of preterm birth, including kaupapa models of health and wellbeing? \*

### **Prediction of spontaneous preterm birth**

- What are the major and moderate risk factors for spontaneous preterm birth that can be identified in the first trimester?
- What is the role of routine infection screening in the first trimester to reduce the risk of spontaneous preterm birth?
- What are the major and moderate risk factors for spontaneous preterm birth that may develop during pregnancy?
- What spontaneous preterm birth prediction tools are available and what is their role in the whole population?
- What culture-specific spontaneous preterm birth prediction tools are available and what is their role, including those specific to kaupapa models of health and wellbeing? \*

### **Prevention of spontaneous preterm birth**

#### Pregnancy care

- What is the impact of different models of pregnancy care on spontaneous preterm birth risk? \*
- What is the impact of culture-specific models of pregnancy care on spontaneous preterm birth risk, including kaupapa models of health and wellbeing? \*
- What tools and resources are available for use in pregnancy to educate wāhine/people and whānau about spontaneous preterm birth, its causes and risk factors? \*
- What is the impact of educational tools and resources on the risk of spontaneous preterm birth? \*

#### Management of modifiable risk factors

- What is the impact of smoking cessation on spontaneous preterm birth risk? \*
- What are the most effective smoking cessation programmes in pregnancy? \*
- Who should provide smoking cessation advice and support in pregnancy? \*
- What is the impact of drug and alcohol cessation on spontaneous preterm birth risk?\*
- What are the most effective drug and alcohol cessation programmes in pregnancy? \*
- Who should provide drug and alcohol cessation advice and support in pregnancy? \*
- Should asymptomatic bacteriuria identified at routine screening in early pregnancy be treated to reduce the risk of spontaneous preterm birth?

- What treatment should be provided to treat asymptomatic bacteriuria and urinary tract infections in pregnancy to reduce the risk of spontaneous preterm birth (antibiotic drug, dose and duration)?
- Which urogenital tract infections should be treated in pregnancy to reduce the risk of spontaneous preterm birth (antibiotic drug, dose and duration)?

Care of wāhine/people with risk factors for spontaneous preterm birth

- Which risk factors for spontaneous preterm birth require consideration for specialist review?
- Who should undertake specialist review for wāhine/people with risk factors for spontaneous preterm birth and when should this occur?
- What is the role of a hospital-based specialised preterm birth clinic and/or specialist preterm birth advisor?
- What prediction tools should be used to further identify wāhine/people at highest risk of spontaneous preterm birth (type of tool, frequency of use, and gestational age range of use)?
- What interventions can be offered to reduce the risk of spontaneous preterm birth (type of intervention, indication for use, and gestational age range of use)?
- What is the impact of cultural support for wāhine Māori at high risk of spontaneous preterm birth? \*
- What is the impact of cultural, psychological and social support on wāhine/people at high risk of spontaneous preterm birth? \*
- How should cultural support be provided to wāhine Māori at high risk of spontaneous preterm birth? \*
- How should cultural, psychological and social support be provided to wāhine/people at high risk of spontaneous preterm birth? \*

## **Prediction and prevention of provider-initiated preterm birth**

### Preterm preeclampsia and hypertension in pregnancy

In this section, prediction includes screening for those at risk of preterm preeclampsia and hypertension in pregnancy, as well as for those who already have preterm preeclampsia and hypertension in pregnancy to allow identification of who will benefit from planned preterm birth or expectant management to limit unnecessary early birth and improve outcomes for māmā/person and pēpi.

Prediction:

- What are the major and moderate risk factors for preterm preeclampsia and hypertension in pregnancy that can be identified in the first trimester?
- What are the major and moderate risk factors for preterm preeclampsia and hypertension in pregnancy that may develop during pregnancy?
- What preterm preeclampsia and hypertension in pregnancy prediction tools are available and what is their role in screening within the general population?
- What preterm preeclampsia and hypertension in pregnancy prediction tools are available and what is their role in the screening of wāhine/people identified to have major and moderate risk factors?

- What preterm preeclampsia and hypertension in pregnancy prediction tools are available to identify which wāhine/people and pēpi would benefit from planned preterm birth or expectant management?

#### Prevention:

- What is the impact of different models of pregnancy care on preterm preeclampsia and hypertension in pregnancy and the need for preterm birth? \*
- What is the impact of culture-specific models of pregnancy care on preterm preeclampsia and hypertension in pregnancy and the need for preterm birth, including kaupapa models of health and wellbeing? \*
- What tools are available for use in pregnancy to educate wāhine/people and whānau about preterm preeclampsia and hypertension in pregnancy and its risk factors? \*
- What is the impact of educational tools and resources on the risk of preterm preeclampsia and hypertension in pregnancy?
- Which risk factors for preterm preeclampsia and hypertension in pregnancy require consideration for specialist review?
- Who should undertake specialist review for wāhine/people with risk factors for preterm preeclampsia and hypertension in pregnancy and when should this occur?
- What interventions can be offered to reduce the risk of preterm preeclampsia and hypertension in pregnancy (type of intervention, indication for use, and gestational age range of use)?
- What is the optimal management of preterm preeclampsia and hypertension in pregnancy to limit unnecessary preterm birth and improve outcomes for māmā/person and pēpi?
- What is the impact of cultural support on wāhine Māori with preterm preeclampsia and hypertension in pregnancy? \*
- What is the impact of cultural, psychological and social support on wāhine/people with preterm preeclampsia and hypertension in pregnancy? \*
- How should cultural support be provided to wāhine Māori with preterm preeclampsia and hypertension in pregnancy? \*
- How should cultural, psychological and social support be provided to wāhine/people with preterm preeclampsia and hypertension in pregnancy? \*

#### Preterm small for gestational age (SGA) and fetal growth restriction (FGR)

In this section, prediction includes screening for those at risk of preterm SGA and FGR, as well as in those who already have preterm SGA and FGR, identification of who will benefit from planned preterm birth or expectant management to limit unnecessary early birth and improve outcomes for māmā/person and pēpi.

#### Prediction:

- What are the major and moderate risk factors for preterm SGA and FGR that can be identified in the first trimester?
- What are the major and moderate risk factors for preterm SGA and FGR that may develop during pregnancy?
- What preterm SGA and FGR prediction tools are available and what is their role in screening within the general population?

- What preterm SGA and FGR prediction tools are available and what is their role in screening of wāhine/people identified to have major and moderate risk factors?
- What preterm SGA and FGR prediction tools are available to identify which wāhine/people and pēpi would benefit from planned preterm birth and/or expectant management?
- What culture-specific preterm SGA and FGR prediction tools are available and what is their role, including those specific to kaupapa models of health and wellbeing? \*

#### Prevention:

- What is the impact of different models of pregnancy care on preterm SGA and FGR and the need for preterm birth? \*
- What is the impact of culture-specific models of pregnancy care on preterm SGA and FGR and the need for preterm birth, including kaupapa models of health and wellbeing? \*
- What tools and resources are available for use in pregnancy to educate wāhine/people and whānau about preterm SGA and FGR and its risk factors? \*
- What is the impact of educational tools on the risk of preterm SGA and FGR?
- Which risk factors for preterm SGA and FGR require consideration for specialist review?
- Who should undertake specialist review for wāhine/people with risk factors for preterm SGA and FGR and when should this occur?
- What interventions can be offered to reduce the risk of preterm SGA and FGR (type of intervention, indication for use, and gestational age range of use)?
- What is the optimal management of preterm SGA and FGR to limit unnecessary preterm birth and improve outcomes for māmā/person and pēpi?
- What is the impact of cultural support on wāhine Māori with preterm SGA and FGR? \*
- What is the impact of cultural, psychological and social support on wāhine/people with preterm SGA and FGR? \*
- How should cultural support be provided to wāhine Māori with preterm SGA and FGR? \*
- How should cultural, psychological and social support be provided to wāhine/people with preterm SGA and FGR? \*

#### Diabetes in pregnancy

In this section, diabetes in pregnancy refers to wāhine/people with pre-existing Type 1 and 2 diabetes as well as gestational diabetes. Prediction includes screening for those at risk of gestational diabetes as well as for those who already have diabetes in pregnancy, identification of who will benefit from planned preterm birth or expectant management to limit unnecessary early birth and improve outcomes for māmā and pēpi.

#### Prediction:

- What is the recommended pathway for screening and early identification of gestational diabetes? \*
- What prediction tools and resources are available for wāhine/people with diabetes in pregnancy to identify which wāhine/people and pēpi would benefit from planned preterm birth and/or expectant management?

#### Prevention:

- What is the impact of different models of pregnancy care on the need for preterm birth for wāhine/people with diabetes in pregnancy? \*
- What is the impact of culture-specific models of pregnancy care on the need for preterm birth for wāhine/people with diabetes in pregnancy, including kaupapa models of health and wellbeing? \*
- What tools and resources are available for use in pregnancy to educate wāhine/people and whānau about the impact of diabetes in pregnancy on preterm birth? \*
- What is the impact of educational tools and resources on the risk of preterm birth in wāhine/people with diabetes in pregnancy? \*
- What is the optimal management of wāhine/people with diabetes in pregnancy to limit unnecessary preterm birth and improve outcomes for māmā and pēpi?
- What is the impact of cultural support on preterm birth in wāhine Māori with diabetes in pregnancy? \*
- What is the impact of cultural, psychological and social support on preterm birth in wāhine/people with diabetes in pregnancy? \*
- How should cultural support be provided to wāhine Māori with diabetes in pregnancy? \*
- How should cultural, psychological and social support be provided to wāhine/people with diabetes in pregnancy? \*

#### Other medical conditions for māmā/person

In this section, other medical conditions māmā/person refers to wāhine/people with pre-existing or pregnancy specific medical conditions that may contribute to the need for provider-initiated preterm birth, for example renal disease, cardiac disease, obstetric cholestasis, and cancer in pregnancy. Prediction and prevention only includes that relevant to the identification of who will benefit from planned preterm birth or expectant management, to limit unnecessary early birth and improve outcomes for māmā and pēpi.

#### Prediction:

- Which medical conditions that may lead to preterm birth require specialist review in pregnancy?
- Are there medical condition specific prediction tools available to identify which wāhine/people and pēpi would benefit from planned preterm birth and/or expectant management?

#### Prevention:

- Who should undertake specialist review for wāhine/people with medical conditions that may lead to preterm birth and where and when should this occur?
- What is the impact of different models of pregnancy care on the need for preterm birth for wāhine/people with medical conditions in pregnancy? \*
- What is the impact of culture-specific models of pregnancy care on the need for preterm birth for wāhine/people with medical conditions in pregnancy, including kaupapa models of health and wellbeing? \*

- What tools are available for use in pregnancy to educate wāhine/people and whānau about the impact of medical conditions on preterm birth (condition-specific)? \*
- What is the impact of educational tools on the risk of preterm birth in wāhine/people with medical conditions in pregnancy (condition specific)? \*
- What is the optimal management of wāhine/people with medical conditions in pregnancy to limit unnecessary preterm birth and improve outcomes for māmā and pēpi?
- What is the impact of cultural support on preterm birth in wāhine Māori with medical conditions in pregnancy? \*
- What is the impact of cultural, psychological and social support on preterm birth in wāhine/people with medical conditions in pregnancy? \*
- How should cultural support be provided to wāhine Māori with medical conditions in pregnancy? \*
- How should cultural, psychological and social support be provided to wāhine/people with medical conditions in pregnancy? \*

### Placental abnormalities

In this section, placental abnormalities includes placenta praevia, placenta accreta spectrum, abruption and vasa praevia.

Prediction:

- What are the major and moderate risk factors for placental abnormalities that can be identified pre-pregnancy and in the first trimester?
- What are the most effective prediction tools to detect placental abnormalities and what are their role in the general population?
- What are the most effective diagnostic tools for those wāhine/people identified to be at high risk of a placental abnormality?

Prevention:

- What are the most effective strategies to reduce the risk of placental abnormalities?
- What tools and resources are available for use in pregnancy to educate wāhine/people and whānau about placental abnormalities and their risk factors? \*
- What is the impact of educational tools and resources on the risk of placental abnormalities in pregnancy? \*
- Which placental abnormalities require specialist review?
- Who should undertake specialist review for wāhine/people with placental abnormalities and when should this occur?
- What is the optimal management of placental abnormalities to limit unnecessary preterm birth and improve outcomes for māmā and pēpi?
- What interventions can be offered to reduce the risk of preterm birth due to placental abnormalities?
- What is the impact of cultural support on wāhine Māori with placental abnormalities, including with respect to the significance of the whenua? \*
- What is the impact of cultural, psychological and social support on wāhine/people with placental abnormalities? \*

- How should cultural support be provided to wāhine Māori with placental abnormalities? \*
- How should cultural, psychological and social support be provided to wāhine/people with placental abnormalities? \*

### Multiple pregnancy

Wāhine/people with multiple pregnancies (twins, triplets and higher order multiples) are at significantly increased risk of provider-initiated preterm birth. This may be related to an increased risk of pregnancy specific conditions e.g. preeclampsia, fetal growth restriction and placental abnormalities, and may also be due to multiple pregnancy specific conditions. This section covers provider-initiated multiple pregnancy specific conditions that are related to complications of monochorionic placentation. General considerations for multiple pregnancy are covered in the multiple pregnancy section below.

Prediction:

- What are the most effective tools to determine chorionicity in a multiple pregnancy?
- What are the most effective surveillance tools for monochorionic pregnancies?

Prevention:

- Who should provide pregnancy care for wāhine/people with multiple pregnancies and when should this occur?
- What is the impact of different models of pregnancy care on the need for preterm birth for wāhine/people with monochorionic multiple pregnancy? \*
- What is the impact of culture-specific models of pregnancy care on the need for preterm birth for wāhine/people with monochorionic multiple pregnancy, including kaupapa models of health and wellbeing? \*
- What is the optimal management of monochorionic multiple pregnancy to limit unnecessary preterm birth and improve outcomes for māmā and pēpi?

## **Preparing for preterm birth and optimising outcomes**

Antenatal education

- What is the impact of education on the signs and symptoms predictive of preterm birth (spontaneous and provider-initiated) on the outcomes of preterm birth?
- How should education regarding the signs and symptoms predictive of preterm birth (spontaneous and provider-initiated) be delivered to wāhine/people and whānau?

Identification of which wāhine/people require preparation and optimisation for preterm birth

- What are the most effective predictive tools to identify which wāhine/people are at risk of imminent spontaneous preterm birth due to PPRM and/or preterm labour (type of tool, frequency of use, and gestational age range of use)?
- What are the most effective predictive tools to identify which wāhine/people are at risk of imminent provider-initiated preterm birth (type of tool, frequency of use, and gestational age range of use)?

Timing of birth



- What is the optimal timing of birth for wāhine/people with PPRM, who are not in labour?
- What is the optimal timing of birth for wāhine/people with preterm preeclampsia and hypertension in pregnancy?
- What is the optimal timing of birth for wāhine/people with preterm SGA and FGR?
- What is the optimal timing of birth for wāhine/people with diabetes in pregnancy at risk of preterm birth?
- What is the optimal timing of birth for wāhine/people with medical conditions in pregnancy at risk of preterm birth?
- What is the optimal timing of birth for wāhine/people with placental abnormalities?
- What is the optimal timing of birth for wāhine/people with multiple pregnancy?

#### Neonatal considerations

- What is the optimal level of available neonatal care for pēpi born preterm?
- What is the effect of place of birth on short and long term outcomes for pēpi born preterm?
- What is the optimal mode of transport and care if in-utero transfer is required?
- What is the most effective way to provide antenatal counselling to wāhine/people and whānau regarding expectations of preterm birth? \*

#### Corticosteroids

- What are the short and long term māmā/person and pēpi benefits and harms of antenatal corticosteroid administration when given to wāhine/people at risk of preterm birth?
- At what gestational ages should corticosteroids be given to wāhine/people at risk of preterm birth?
- What are the indications and contraindications to corticosteroid administration for wāhine/people at risk of preterm birth?
- What type of corticosteroid should be administered to wāhine/people at risk of preterm birth and at what dose and interval of dosing?
- What is the optimal timing of administration of corticosteroids prior to preterm birth?
- What are the short and long term benefits and harms of repeat antenatal corticosteroid administration when given to wāhine/people who remain at risk of preterm birth after a first course has been given?
- For repeat corticosteroid use, what type of corticosteroid should be administered, and at what dose, interval and total number of doses?

#### Magnesium sulphate

- What are the short and long term māmā/person and pēpi benefits and harms of antenatal magnesium sulphate administration when given to wāhine/people at risk of preterm birth for fetal neuroprotection?
- At what gestational ages should magnesium sulphate be given to wāhine/people at risk of preterm birth for fetal neuroprotection?
- What are the indications and contraindications to magnesium sulphate administration given for fetal neuroprotection?

- What is the dose and duration of magnesium sulphate given for fetal neuroprotection?
- What is the optimal timing of administration of magnesium sulphate given for fetal neuroprotection?
- What māmā/person and fetal monitoring is required during administration of magnesium sulphate given for fetal neuroprotection?

#### Tocolysis

- What are the short and long term māmā/person and pēpi benefits and harms of tocolysis when given to wāhine/people at risk of spontaneous preterm labour?
- At what gestational ages should tocolysis be considered?
- What are the indications and contraindications to tocolysis?
- What type of tocolytic drug and at what dose and duration should be used for tocolysis?
- What māmā/person and fetal monitoring is required during tocolysis?

#### Antibiotics

- What are the short and long term māmā/person and pēpi benefits and harms of antibiotic use in wāhine/people at the time of preterm birth (spontaneous labour, induction of labour and pre-labour caesarean section)?
- At what gestational ages should antibiotic use be considered (spontaneous labour, induction of labour and pre-labour caesarean section)?
- What are the indications and contraindications for antibiotic use at the time of preterm birth (spontaneous labour, induction of labour and pre-labour caesarean section)?
- What antibiotic should be given at the time of preterm birth and at what dose and duration (spontaneous labour, induction of labour and pre-labour caesarean section)?
- What is the optimal timing of antibiotic use prior to preterm birth (spontaneous labour, induction of labour and pre-labour caesarean section)?

#### Mode of birth

- What are the māmā/person and pēpi short and long term benefits and harms of preterm birth when planned as a vaginal birth or by caesarean section, according to:
  - Indication for birth
  - Fetal presentation i.e. cephalic, breech, other
  - Gestational age at time of birth
  - Number of fetuses in-utero

#### Fetal monitoring in labour

- What are the indications and contraindications to fetal monitoring in preterm labour?
- What type of fetal monitoring should be used in preterm labour?

#### Deferred cord clamping

- What are the short and long term māmā/person and pēpi benefits and harms of deferred cord clamping after preterm birth?
- At what gestational ages should deferred cord clamping be considered?
- What are the indications and contraindications for deferred cord clamping after preterm birth?

- What is the optimal duration and method of deferred cord clamping after preterm birth?

Attendees at birth to support neonatal care

- Who should be present at a preterm birth to provide optimal neonatal care?
- What training should birth attendees have to support immediate neonatal care after preterm birth?

## **Specific conditions**

### Birth at the limits of survival

*(Statement on the importance of variation in the approach of care when birth is expected at a perivable gestational age. NZ consensus statement and summary of recommendations)*

- What are the antenatal variables that influence outcomes for pēpi born at the limits of survival gestational ages?
- What is the approach to decision-making around care when birth is expected at the limits of survival gestational ages? \*
- How does preterm birth care at the limits of survival differ to preterm birth care at other gestational ages?

### Multiples

*Note that management considerations required for multiple pregnancies are also specified in each relevant section above.*

Prediction:

- What are the most effective tools to determine chorionicity in a multiple pregnancy?
- What are the most effective surveillance tools for wāhine/people with multiple pregnancies?

Prevention:

- What are the most effective strategies to reduce the risk of multiple pregnancy?
- Which wāhine/people with multiple pregnancy require specialist review?
- Who should undertake specialist review for wāhine/people with a multiple pregnancy and when should this occur?
- What is the impact of different models of pregnancy care on the need for preterm birth for wāhine/people with a multiple pregnancy? \*
- What is the impact of culture-specific models of pregnancy care on the need for preterm birth for wāhine/people with a multiple pregnancy, including kaupapa models of health and wellbeing? \*
- What tools are available for use in pregnancy to educate wāhine/people and whānau about the risk of preterm birth due to multiple pregnancy? \*
- What is the impact of educational tools on the risk of preterm birth in multiple pregnancy? \*
- What is the optimal management of multiple pregnancy to limit unnecessary preterm birth and improve outcomes for māmā/person and pēpi?
- What is the impact of cultural support on wāhine Māori with multiple pregnancy? \*

- What is the impact of cultural, psychological and social support on wāhine/people with multiple pregnancy? \*
- How should cultural support be provided to wāhine Māori with multiple pregnancy? \*
- How should cultural, psychological and social support be provided to wāhine/people with multiple pregnancy? \*

## **Postnatal care after preterm birth and future pregnancy planning**

### Investigations

- What investigations should be performed to obtain information on the cause of preterm birth, likelihood of recurrence, and management in a subsequent pregnancy, following a preterm birth (spontaneous and provider-initiated)?

### Identification and management of the impact of the preterm birth on māmā/person health and future pregnancies

- What is the impact of the preterm birth on long term health for māmā/person? \*
- What is the optimal management to improve long term health for māmā/person following a preterm birth? \*
- What is the impact of a preterm birth on future pregnancies?
- What is the optimal management to improve the outcome of future pregnancies?

### Contraception advice

- What contraception advice should be given after a preterm birth?
- What advice should be given about pregnancy spacing following a preterm birth?

### Psychological, social and cultural support after a preterm birth

- What psychological, social and cultural support should be provided to wāhine/people and their whānau following a preterm birth? \*
- What practical support should be provided for wāhine/people and their whānau after a preterm birth, including those receiving care away from home? \*
- How should bereavement support be provided to wāhine/people and their whānau when their pēpi has died after a preterm birth? \*



**CAROSIKA**

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