



**NATIONAL WOMEN'S HEALTH  
DEPARTMENT OF OBSTETRICS  
AND GYNAECOLOGY**

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Dear Colleagues,

As many of you are aware monochorionic (MC) twins are higher risk than dichorionic (DC) twins by virtue of their unique placental set-up. An excess of perinatal mortality is seen in MC twins which is in part due to this placental sharing. Twin to twin transfusion syndrome (TTTS) is one of the major causes of excess morbidity and mortality. The best treatment for severe cases is Selective Fetoscopic Laser Photocoagulation (SFLP).

This procedure is currently performed in Australia. We will shortly start offering SFLP in New Zealand in Auckland at National Women's Health. This will be accompanied by a major media interest and it is important that you have had a chance to review the attached guideline prior to this.

The MC guideline has been developed and approved by the MFM subspecialists in Auckland and Wellington with the aim of allowing all LMCs a clear pathway for the routine management and assessment of MC pregnancies and therefore allowing timely referral where indicated for further assessment. It is not designed to encompass all aspects of multiple pregnancy care but is a guide to assist in ultrasound scanning regimes.

Please do not hesitate to contact me or your local MFM team if you have any further questions,

Yours Sincerely

Dr Emma Parry  
Clinical Director Maternal-Fetal Medicine Service  
National Women's Health

INTEGRITY

RESPECT

INNOVATION

EFFECTIVENESS

Additional resources: a letter for your midwife (with the Guidelines on page 18)

# Guideline for the Management of Monochorionic Twins

## Purpose

The aim of this guideline is to guide the accurate diagnosis, ongoing care and management of women with monchorionic twins and related complications.

## Objective

*To provide consistent approach to the care of women with monchorionic twins.*

## Definition

Monochorionic twins are those sharing a placenta which can contain vascular connections between the two parts of the placenta.

## Background

Twin pregnancy occurs in approximately 2% of pregnancies and the rate is increasing. This is thought to be due to increasing maternal age and increasing use of assisted reproductive technologies which are both known risk factors for multiple birth. One-third of twin pregnancies are higher risk by virtue of having a single shared placenta (monochorionic placenta).

At term, the cumulative loss rate for Dichorionic (DC) twins is approximately 5%. For Monochorionic (MC) twins it is 15%. This means that of all Monochorionic twins identified early in the first trimester, only 85% of them will result in twin livebirths.

All twin pregnancies have increased rates of anomaly, preterm birth (spontaneous and iatrogenic), Pre-eclampsia, selective intra-uterine growth restriction (sIUGR), Gestational Diabetes Mellitus (GDM) and complicated delivery.

The excess rate of losses in MC twins is secondary to the unique placental configuration and excess anomalies. 10-15% of MC twins will develop Twin to twin Transfusion Syndrome (TTTS). This most commonly occurs between 16-26 weeks gestation and untreated has a perinatal mortality rate of 80-90%. In this situation one twin receives more blood flow than the other by virtue of unidirectional flow along connecting vessels. This diagnosis carries an extremely poor prognosis and it can be responsible for up to 20% of all perinatal deaths in twins. The initial finding is of discordant liquor volumes.

sIUGR is also a common complication of a MC twin pregnancy. It is secondary to unequal share of the placental mass and if it occurs early can have a poor outcome.

The demise of one fetus can have a significant effect on the surviving sibling. In 25% of cases the other will succumb soon after, but in those that survive up to 20% can have major brain damage.

Rarer complications of MC twins include monoamniotic twins, the Twin-reverse arterial perfusion (TRAP) sequence and conjoined twins.

## Principles of management

### Points from history

Monochorionic twin pregnancy is more common where assisted reproductive technology has been used.

### Ultrasound

The first scan if done prior to 15 weeks will have nearly 100% accuracy in determining chorionicity.

It is standard practice for ultrasonographers to comment on chorionicity at the time of an early scan. If a scan <15 weeks confirms a twin pregnancy but does not clearly state chorionicity it should be repeated or reviewed.

Nuchal translucency is as accurate in twin pregnancies as in singletons and can provide individual risk of aneuploidy to each fetus. A discordancy in nuchal translucency however, can also be due to an increased risk of development of Twin to twin transfusion syndrome (40% PPV) or due to other structural abnormality.

There are no RCTs to guide routine scanning in MC twins, however we recommend:

- Dating scan (with determination of chorionicity)
- Nuchal translucency scans
- Fortnightly scans from 16 weeks gestation for growth and liquor to detect early signs of twin to twin transfusion syndrome.

### When to refer?

MC twins should be managed either by a specialist LMC or with regular Obstetric specialist input.

A specialist with an interest in high risk pregnancy should be involved in the following situations:

- Discordant nuchal translucency
- Liquor discordancy
- Growth discordancy of >20% EFW.

Where there is a possible diagnosis of TTTS early referral within 24 hours to the regional unit is recommended for further assessment. This condition can deteriorate quickly and treatment for severe cases is available only in Auckland.

*This guideline has been prepared by Dr Emma Parry, the Clinical Director of Maternal Fetal Medicine at National Women's Department of Obstetrics and Gynaecology (Auckland).*

**IF YOU ARE DIAGNOSED WITH MONCHORIONIC TWINS, SHOW THIS GUIDELINE TO YOUR MIDWIFE OR GP.**