

## Obstetric metabolic medicine: a window to health

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### Abstract

Metabolic health is an integral part of overall health. This is especially true during the preconception, antenatal and postpartum periods. Metabolic health influences foeto-maternal outcomes, as well as the long term health of the unborn child. This communication shares a pragmatic 3x3 rubric, which acts as a checklist for the health care provider. It calls for teamwork between obstetricians, physicians and other stakeholders, to ensure optimal health outcomes for all.

**Keywords:** Antenatal care, checklist, GDM, vascular health, intrahepatic cholestasis, postpartum care, preconception counselling, pregnancy outcomes, trans generational impact, transgenerational karma

### Introduction

Pregnancy is an important milestone in the life of a woman. If well managed, the antenatal period can be a time of perfect health for a woman, and create a foundation for the health of her unborn child as well. On the other hand, lack of attention to antenatal health impairs foeto-maternal outcomes, and negatively influences the unborn child's future health.<sup>1</sup>

Obstetric metabolic medicine seeks to provide optimal metabolic and endocrine care to women of child bearing age, in the pre-conception, antenatal and post-conception periods. Team work between the obstetrician, physician, and other stakeholders helps to ensure a healthy and fruitful pregnancy. Preconception counseling, to ensure optimal health of both partners, and extended postpartum followup, to provide timely preventative and curative care, are of equal importance.<sup>2</sup>

This communication will provide a 3x3 obstetric medical checklist for the primary care physicians, to help structure their services in an efficient manner (Table)

### Medical health

Medical obstetric health includes a focus on cardio-respiratory, hepatic and renal parameters.<sup>3</sup> All pre-existing

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**Table:** Domains of obstetric metabolic health.

Domains	Examples of disease
<b>Medical</b>	
Cardiorespiratory	Cardiomyopathy
Hepatic	Cholestasis of pregnancy
Renal	Proteinuria, Vesicoureteric reflux, obstructive uropathy
<b>Endocrine</b>	
Glycaemia	Gestational diabetes mellitus
Weight gain	Over or under weight gain
Thyroid	Hypothyroidism
<b>Rubrovascular</b>	
Haemoglobin	Anaemia
Blood pressure	Pregnancy induced hypertension
Coagulation	Thrombocytopenia, DIC

medical disorders should be managed optimally prior to conception, using drugs which are safe for both mother and foetus. If a medical disorder develops or is identified after conception, it should be managed as soon as possible. In some cases, definitive management such as surgery may be postponed till delivery: In these, medical care should aim to optimize foeto-maternal status as best as possible.

### Endocrine health

Euglycaemia, optimal weight gain and euthyroidism form the triad of endocrine parameters that must be maintained prior to, during and after pregnancy.<sup>4,5</sup> All three influence not only maternal and foetal health, but also that of the unborn child.

### Rubrovascular health

In the rubrovascular domain, we list three targets: haemoglobin, blood pressure and coagulation profile.<sup>6-8</sup> Achieving a normal haemoglobin, maintaining normal blood pressure, and preventing haemostatic derangement such as coagulopathy are essential for good foeto-maternal outcomes.

### Pragmatic approach

The 3x3 format that we have used is a simple, yet comprehensive checklist, which allows primary care physicians to screen and monitor women in preconception, antenatal or post-conception phase. While clinical; (history, anthropometry, vital signs and physical examination) parameters may suffice in most cases, laboratory screening may be needed in others. Usually,

simple investigations such as haemoglobin, urinalysis, glucose tolerance test (GTT) and thyroid stimulating test (TSH) are enough to screen for metabolic obstetric health. Only in rare conditions will advanced investigations be required.

### Transgenerational impact

The importance of obstetric metabolic care lies in its transgenerational impact.<sup>9</sup> By ensuring medical, endocrine and rubrovascular health of the antenatal woman, we are able to create a salutogenic influence not only for her, but also for the foetus. The impact of antenatal care extends to the unborn child during its adult life as well. The preconception and postpartum phase are equally important: preconception counseling and care allows one to start pregnancy in a healthy state, while focused postpartum care facilitates efforts to prevent long term sequelae such as metabolic syndrome, including diabetes. Thus obstetric metabolic care offers a window of opportunity, which can be utilized to ensure a healthy future for mankind.

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