

GESTATIONAL DIABETES MELLITUS

Background

This case definition was developed by the Armed Forces Health Surveillance Center (AFHSC) for the purpose of epidemiological surveillance of a condition important to military-associated populations.

Clinical Description

Gestational Diabetes Mellitus (GDM) complicates up to 5% of all pregnancies in the United States. GDM is defined as carbohydrate intolerance first recognized during pregnancy. It is manifested by elevated blood levels of glucose (hyperglycemia). Although some insulin resistance is part of normal pregnancy, gestational diabetes occurs when the mother's capacity for insulin secretion is insufficient to meet the increased insulin demands of pregnancy. High fetal glucose levels cause excessive fetal insulin secretion, which can cause fetal macrosomia (abnormally large fetal weight and size), as well as neonatal hypoglycemia. Following delivery, a mother's carbohydrate tolerance may return to normal, but up to 30% of women with GDM develop diabetes mellitus within 5 years of pregnancy.^{1,2,3}

Case Definition and Incidence Rules

For surveillance purposes, a case of gestational diabetes mellitus is defined as:

- *One hospitalization* with any documentation of a live birth (see ICD9 code list below) *and* at least one of the following:
 - *One hospitalization or outpatient medical encounter* with any of the defining diagnoses of gestational diabetes mellitus (ICD9 codes 648.00 – 648.04) in *any* diagnostic position; or
 - *One inpatient medical encounter* with a diagnosis of abnormal glucose tolerance (ICD9 codes 648.80 – 648.84) in *any* diagnostic position; or
 - *Two or more outpatient medical encounters, at least 7 days apart*, with a diagnosis of abnormal glucose tolerance (ICD9 codes 648.80 – 648.84) in *any* diagnostic position.

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first hospitalization or outpatient medical encounter that includes a diagnosis of GDM or abnormal glucose tolerance.

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¹ Gibbs, R.S., Karlan, B.Y., Haney, A.F., Nygaard, I.E. 2008. *Danforth's Obstetrics and Gynecology*. 10th ed. Lippincott Williams & Wilkins.

² Braunwald, E., Fauci, A., Longo, D. et al. 2008. *Harrison's Principles of Internal Medicine*. 17th ed. United States: McGraw-Hill Professional.



Case Definition and Incidence Rules *(continued)*

Exclusions:

- Any female with a prior diagnosis of “diabetes mellitus” (ICD9 code 250) in any diagnostic position during any inpatient or outpatient medical encounter.

Codes

The following ICD9 codes are included in the case definition:

Condition	ICD-9-CM codes	CPT Codes
Live Birth	V27.0 (single liveborn) V27.2 (twins, both liveborn) V27.3 (twins, one liveborn and one stillborn) V27.5 (other multiple birth, all liveborn) V27.6 (other multiple birth, some liveborn) 650 or 651-669 with 5 th digit of 1 or 2 indicating “delivered” (normal delivery, and other indications for care in pregnancy, labor, and delivery)	NA
Gestational Diabetes Mellitus	<i>Diabetes mellitus</i> 648.00 – 648.04 (other current conditions in the mother classifiable elsewhere, but complicating pregnancy, childbirth, or the puerperium) <i>Abnormal glucose tolerance</i> 648.80 – 648.84 (other current conditions in the mother classifiable elsewhere, but complicating pregnancy, childbirth, or the puerperium – Abnormal glucose tolerance)	NA

Development and Revisions

- The case definition was originally developed by the AFHSC Medical Surveillance Monthly Report (MSMR) staff for the MSMR article on gestational diabetes.³

³ Armed Forces Health Surveillance Center. Gestational Diabetes among Female Service Members in Relation to Body Mass Index Prior to Service, Active Components, U. S. Armed Forces, 1998-2007. *Medical Surveillance Monthly Report (MSMR)*. 2008 May; Vol 15(4): 2-5.



Reports

None

Review

Apr 2011	Case definition reviewed and adopted by AFHSC Surveillance Methods and Standards (SMS) working group.
May 2008	Case definition developed for MSMR.

Comments

None

