

## Guideline topic: Management of diabetes in pregnancy

### General comments

Original searches were completed for this guideline in 2019. Guideline development was paused in 2020 due to the COVID-19 pandemic. When development restarted in 2022, further searches were completed to identify newly published evidence.

### Search results (whole guideline topic)

#### *Guidelines search*

Not relevant to this guideline – evidence tables were extracted from NICE guideline, NG3 Diabetes in pregnancy: management from preconception to the postnatal period.

#### *Patient search*

The patient search was conducted using the stem search strategy outlined below in conjunction with the patient search filter.

Databases searched: Medline, PsychInfo, ProQuest Public Health

#### *Systematic review search*

The systematic review search was conducted using the stem search strategy outlined below in conjunction with the SIGN systematic review filter.

Databases searched: Medline, Embase, Cochrane Dates searched: 2019 and 2022

Dates covered: 2014–2019, and 2019–2022

### Stem search strategies (*Medline*)

#### *Patient stem search strategy*

**Database: Ovid MEDLINE(R) ALL <1946 to April 26, 2024>**

#### **Search Strategy:**

- 1 Residence Characteristics/ (38630)
- 2 Environment design/ (7333)
- 3 exp Marital status/ (40570)
- 4 neighbo?rhood\*.mp. (44067)
- 5 residential environment\*.mp. (1017)
- 6 rural\*.mp. (213837)
- 7 inner?city.mp. (57)
- 8 housing instability.mp. (810)
- 9 housing insecurity.mp. (517)
- 10 housing strain.mp. (6)
- 11 housing security.mp. (103)
- 12 mortgage problems.mp. (0)
- 13 oreclosure.mp. (0)
- 14 eviction\*.mp. (1079)
- 15 housing loss.mp. (30)
- 16 home repossession\*.mp. (2)
- 17 home ownership.mp. (584)

- 18 (repossess\* adj3 hous\*).mp. (8)
- 19 (repossess\* adj3 propert\*).mp. (1)
- 20 mortgage delinquency.mp. (8)
- 21 mortgage arrears.mp. (2)
- 22 mortgage debt\*.mp. (20)
- 23 overcrowding.mp. (4071)
- 24 (living adj1 (outside or inside or near\* or adjacent)).mp. (4641)
- 25 (household adj2 size).mp. (2181)
- 26 (marital status or marriage status).mp. (36280)
- 27 (widow\* or cohabit\* or divorce\* or single parent\* or live\* alone).mp. (31227)
- 28 or/1-27 (374232)
- 29 Cultural Deprivation/ (1175)
- 30 Acculturation/ (7109)
- 31 Culture/ (34355)
- 32 Cross-Cultural Comparison/ (28022)
- 33 Cultural Characteristics/ (16875)
- 34 Cultural Diversity/ (13061)
- 35 Language/ (55470)
- 36 "Transients and Migrants"/ (14748)
- 37 exp "Emigrants and Immigrants"/ (16087)
- 38 Minority groups/ (18750)
- 39 Minority health/ (907)
- 40 Prejudice/ (25701)
- 41 Racism/ (6940)
- 42 Xenophobia/ (103)
- 43 Social Discrimination/ (1657)
- 44 exp Race Relations/ (9631)
- 45 exp Ethnic Groups/ (110613)
- 46 exp Continental Population Groups/ (107225)
- 47 Refugees/ (13767)
- 48 minorit\*.mp. (112294)
- 49 migration background.mp. (963)
- 50 racial.mp. (82416)
- 51 racism.mp. (13401)
- 52 ethnology.mp. (175544)
- 53 race.mp. (152655)
- 54 ethnic\*.mp. (233778)
- 55 non?English.mp. (25)
- 56 language other than.mp. (756)
- 57 whites.mp. (30534)
- 58 non?white.mp. (3248)
- 59 non?British.mp. (2)
- 60 english as a second language.mp. (554)
- 61 foreign language.mp. (2038)
- 62 or/29-61 (750340)
- 63 Occupations/ (25058)
- 64 Unemployment/ (7893)
- 65 occupations.mp. (50302)
- 66 unemployment.mp. (18656)
- 67 or/63-66 (68393)
- 68 exp Gender Identity/ (28090)
- 69 Women's Health/ (29973)
- 70 gender differences.mp. (35174)
- 71 (sex disparit\* or sex difference?).mp. (51015)
- 72 gender identity.mp. (25641)
- 73 sex role.mp. (1733)
- 74 wom#n\* role?.mp. (717)
- 75 m#n\* role?.mp. (12084)
- 76 gender\* role?.mp. (4421)
- 77 Sex factors/ (279933)

**78** or/68-77 (405367)  
**79** exp Educational status/ (64068)  
**80** Education/ (21541)  
**81** Schooling.mp. (10843)  
**82** educational status.mp. (67095)  
**83** (education\* adj2 level?).mp. (71773)  
**84** ((higher or better or worse or less) adj educated).mp. (7088)  
**85** ((higher or better or worse or less) adj level? of education).mp. (3212)  
**86** or/79-85 (160311)  
**87** Religion/ (16080)  
**88** religi\*.mp. (75099)  
**89** 87 or 88 (75099)  
**90** Social determinants of Health/ (7201)  
**91** Psychosocial Deprivation/ (2054)  
**92** Sociological Factors/ (738)  
**93** Working Poor/ (21)  
**94** Hierarchy, Social/ (2393)  
**95** disparit\*.mp. (138031)  
**96** inequalit\*.mp. (54403)  
**97** inequit\*.mp. (24180)  
**98** equity.mp. (38550)  
**99** deprivation.mp. (105630)  
**100** gini.mp. (2389)  
**101** concentration index.mp. (2394)  
**102** Socioeconomic Factors/ (173500)  
**103** Social Welfare/ (9809)  
**104** exp Social Class/ (46207)  
**105** exp Poverty/ (50813)  
**106** Income/ (35670)  
**107** Social class\*.mp. (51947)  
**108** social determinants.mp. (21378)  
**109** social status.mp. (7567)  
**110** social position.mp. (1264)  
**111** social background.mp. (1327)  
**112** social circumstance\*.mp. (1487)  
**113** socio-economic.mp. (42979)  
**114** socioeconomic.mp. (267242)  
**115** sociodemographic.mp. (79660)  
**116** socio-demographic.mp. (36043)  
**117** SES.mp. (28009)  
**118** disadvantaged.mp. (19056)  
**119** impoverished.mp. (4424)  
**120** poverty.mp. (74595)  
**121** economic level.mp. (1511)  
**122** assets index.mp. (26)  
**123** income\*.mp. (212185)  
**124** or/90-123 (881563)  
**125** Social Stigma/ (13530)  
**126** social capital/ (1731)  
**127** Social Control, Informal/ (3665)  
**128** exp Social Support/ (81090)  
**129** exp Social Environment/ (128959)  
**130** Trust/ (13622)  
**131** Social conditions/ (9795)  
**132** Social isolation/ (16604)  
**133** Social marginalization/ (601)  
**134** Anomie/ (480)  
**135** social participation/ (3625)  
**136** social exclusion.mp. (2805)  
**137** (social adj (capital or cohes\* or organis\* or organiz\*)).mp. (10852)

**138** (community adj3 (cohes\* or participa\*)).mp. (43178)  
**139** ((neighbourhood or neighborhood) adj cohes\*).mp. (257)  
**140** social relationships.mp. (8415)  
**141** social network\*.mp. (29524)  
**142** collective efficacy.mp. (685)  
**143** civil society.mp. (2867)  
**144** informal social control.mp. (150)  
**145** neighbo\*rhood disorder.mp. (324)  
**146** social disorgani?ation.mp. (269)  
**147** anomie.mp. (633)  
**148** social support.mp. (111128)  
**149** social isolation.mp. (25983)  
**150** social participation.mp. (7191)  
**151** trust.mp. (58492)  
**152** emotional support.mp. (9014)  
**153** psychosocial support.mp. (6134)  
**154** community capital.mp. (34)  
**155** neighbo\*rhood cohesion.mp. (252)  
**156** social influence.mp. (3075)  
**157** (soci\*context\* or soci\*-context\*).mp. (15399)  
**158** or/125-157 (363818)  
**159** Health Status Disparities/ (20065)  
**160** Health Services Accessibility/ (86934)  
**161** Health Equity/ (4250)  
**162** health\*care disparit\*.mp. (24929)  
**163** health care disparit\*.mp. (2410)  
**164** health status disparit\*.mp. (20519)  
**165** health disparit\*.mp. (23714)  
**166** health inequalit\*.mp. (9526)  
**167** health inequit\*.mp. (6151)  
**168** medically underserved.mp. (8968)  
**169** or/159-168 (158496)  
**170** 28 or 62 or 67 or 78 or 86 or 89 or 124 or 160 (2197454)  
**171** DIABETES MELLITUS/ or IMPAIRED GLUCOSE TOLERANCE/ or INSULIN DEPENDENT  
DIABETES MELLITUS/ or JUVENILE DIABETES MELLITUS/ or NON INSULIN DEPENDENT  
DIABETES MELLITUS/ (393956)  
**172** (T1DM or T2DM).ti,ab. (40696)  
**173** (IDDM or NIDDM).ti,ab. (12680)  
**174** (IDDM or NIDDM).ti,ab. (12680)  
**175** diabet\$.ti. (428068)  
**176** pre?diabet\$.ti,ab. (11269)  
**177** impaired fasting glucose.ti,ab. (4484)  
**178** (IGT or IFG).ti,ab. (8897)  
**179** IGR.ti,ab. (1183)  
**180** GLUCOSE INTOLERANCE/ (10057)  
**181** or/1-9 (323543)  
**182** exp PREGNANCY IN DIABETICS/ (13863)  
**183** DIABETES, GESTATIONAL/ (16349)  
**184** (diabet\$ adj3 (gestat\$ or pregnan\$ or gravid\$)).ti,ab. (29916)  
**185** GDM.ti,ab. (12220)  
**186** 182 or 183 or 184 or 185 (39048)  
**187** exp DIABETES MELLITUS/ (525633)  
**188** exp DIABETES INSIPIDUS/ (8449)  
**189** (T?1DM or T?2DM or IDDM or NIDDM).ti,ab. (53356)  
**190** diabet\$.ti. (428068)  
**191** PREDIABETIC STATE/ (9665)  
**192** (prediabet\$ or pre diabet\$).ti,ab. (14447)  
**193** impaired glucose tolerance.ti,ab. (12271)  
**194** IGT.ti,ab. (5578)  
**195** (impaired fasting glucose or impaired fasting glyc?emi\$).ti,ab. (4754)

- 196 IFG.ti,ab. (4503)
- 197 Impaired glucose regulation.ti,ab. (646)
- 198 IGR.ti,ab. (1183)
- 199 (Non diabetic hyperglyc?emi# or nondiabetic hyperglyc?emi#).ti,ab. (110)
- 200 NDH.ti,ab. (1072)
- 201 GLUCOSE INTOLERANCE/ (10057)
- 202 (glucose adj2 intoleran\$).ti,ab. (12638)
- 203 187 or 188 or 189 or 190 or 191 or 192 or 193 or 194 or 195 or 196 or 197 or 198 or 199 or 200 or 201 or 202 (623299)
- 204 181 or 186 (362154)
- 205 203 and 204 (37335)
- 206 205 and 170 (10331)
- 207 limit 206 to yr="2014 - 2019" (3126)

**Generic stem search strategy**

**Database: Ovid MEDLINE(R) ALL <1946 to March 04, 2022>**

**Search Strategy: Main stem** (orig from NICE, incorp pregnancy terms below)

- 
- 1 DIABETES MELLITUS/ or IMPAIRED GLUCOSE TOLERANCE/ or INSULIN DEPENDENT DIABETES MELLITUS/ or JUVENILE DIABETES MELLITUS/ or NON INSULIN DEPENDENT DIABETES MELLITUS/ (345867)
  - 2 (T1DM or T2DM).ti,ab. (30788)
  - 3 (IDDM or NIDDM).ti,ab. (12637)
  - 4 diabet\$.ti. (378362)
  - 5 pre?diabet\$.ti,ab. (9007)
  - 6 impaired fasting glucose.ti,ab. (4119)
  - 7 (IGT or IFG).ti,ab. (8072)
  - 8 IGR.ti,ab. (1074)
  - 9 GLUCOSE INTOLERANCE/ (9473)
  - 10 or/1-9 (498041)

**Database: Embase <1974 to 2022 March 04>**

**Search Strategy: Main stem for Embase** (orig from NICE, incorp pregnancy terms below)

- 
- 1 DIABETES MELLITUS/ or IMPAIRED GLUCOSE TOLERANCE/ or INSULIN DEPENDENT DIABETES MELLITUS/ or JUVENILE DIABETES MELLITUS/ or NON INSULIN DEPENDENT DIABETES MELLITUS/ (959338)
  - 2 (T1DM or T2DM).ti,ab. (54113)
  - 3 (IDDM or NIDDM).ti,ab. (14580)
  - 4 diabet\$.ti. (507223)
  - 5 pre?diabet\$.ti,ab. (13426)
  - 6 impaired fasting glucose.ti,ab. (6553)
  - 7 (IGT or IFG).ti,ab. (12692)
  - 8 IGR.ti,ab. (1525)
  - 9 GLUCOSE INTOLERANCE/ (19918)
  - 10 or/1-9 (1075438)
  - 11 DIABETES MELLITUS/ or IMPAIRED GLUCOSE TOLERANCE/ or INSULIN DEPENDENT DIABETES MELLITUS/ or JUVENILE DIABETES MELLITUS/ or NON INSULIN DEPENDENT DIABETES MELLITUS/ (959338)
  - 12 (T1DM or T2DM).ti,ab. (54113)
  - 13 (IDDM or NIDDM).ti,ab. (14580)
  - 14 diabet\$.ti. (507223)
  - 15 pre?diabet\$.ti,ab. (13426)
  - 16 impaired fasting glucose.ti,ab. (6553)
  - 17 (IGT or IFG).ti,ab. (12692)
  - 18 IGR.ti,ab. (1525)
  - 19 GLUCOSE INTOLERANCE/ (19918)
  - 20 or/11-19 (1075438)

## Search strategies used for specific key questions

*The following are the main Medline strategies used for this guideline. All conventions and symbols are from the Ovid implementation of Medline. Strategies used in other databases were substantially the same, though different terminology may have been used to take account of different thesauri used in non-Medline databases. Search filters were added to identify studies of a particular type (systematic review, RCT, economics etc.) Listings of the search filters used by SIGN can be found on the SIGN Web site.*

## SIGN KQs

**Database: Ovid MEDLINE(R) ALL <1946 to March 04, 2022>**

**Search Strategy: KQ S1 also used for Embase**

- 
- 1 exp \*Pregnancy Trimester, First/ (3000)
  - 2 first trimester.mp. (26078)
  - 3 early pregnancy.mp. (18957)
  - 4 or/1-3 (42841)
  - 5 HbA1c.mp. (40450)
  - 6 exp \*Blood Glucose/ (53483)
  - 7 5 or 6 (89138)
  - 8 4 and 7 (404)

**Database: Ovid MEDLINE(R) ALL <1946 to March 04, 2022>**

**Search Strategy: KQ S2 also used for Embase**

- 
- 1 exp ovary polycystic disease/ (0)
  - 2 PCOS.mp. (13380)
  - 3 (polycystic adj ovar\$).mp. (21755)
  - 4 ((mature or older or elderly or aged) adj mother).mp. (139)
  - 5 "maternal age"/ (20629)
  - 6 \*"advanced maternal age"/ (0)
  - 7 exp Chinese/ (79671)
  - 8 exp Central Asian/ or exp Southeast Asian/ or exp East Asian/ or exp Asian/ or exp South Asian/ (79671)
  - 9 exp risk factor/ (915874)
  - 10 still birth.mp. or exp Stillbirth/ (6095)
  - 11 fetal death.mp. or exp Fetal Death/ (33910)
  - 12 miscarriage.mp. or exp Abortion, Spontaneous/ (44318)
  - 13 pregnancy complications.mp. or Pregnancy Complications/ (176300)
  - 14 exp Pregnancy Outcome/ (80995)
  - 15 \*Genetic Predisposition to Disease/ (58789)
  - 16 \*Ethnic Groups/ (32879)
  - 17 \*continental population groups/ or \*ethnic groups/ (39234)
  - 18 or/1-17 (1330060)

**Search Name: KQ S2 Cochrane**

Date Run: 31/05/2022 12:44:32

Comment: 63 Reviews and 217 Trials (all sifted out for KQ)

| ID | Search   | Hits  |
|----|--|-------|
| 1  | diabetes in pregnancy  | 5825  |
| 2  | gestational diabetes   | 3917  |
| 3  | MeSH descriptor: [Diabetes, Gestational] explode all trees                     | 1135  |
| 4  | #1 or #2 or #3   | 6461  |
| 5  | MeSH descriptor: [Diabetes Insipidus] explode all trees                        | 75    |
| 6  | MeSH descriptor: [Diabetes Mellitus] explode all trees                         | 35175 |
| 7  | type 1 diabetes  | 66063 |
| 8  | type 2 diabetes  | 72484 |
| 9  | diabetes insipidus   | 216   |
| 10 | diabetes mellitus  | 72179 |
| 11 | #5 or #6 or #7 or #8 or #9 or #10  | 91057 |
| 12 | pregnancy  | 66100 |
| 13 | pregnant   | 25804 |
| 14 | gestational  | 21038 |
| 15 | MeSH descriptor: [Pregnancy] explode all trees                                 | 24539 |
| 16 | #12 or 13 or #14 or #15<br>313204  |       |
| 17 | #11 and #16  | 22296 |
| 18 | #17 or #4 with Cochrane Library publication date Between Jan 2019 and May 2022 | 10450 |
| 19 | fetal death  | 2392  |
| 20 | miscarriage  | 2581  |
| 21 | fetal loss   | 1734  |
| 22 | MeSH descriptor: [Fetal Death] explode all trees                               | 392   |
| 23 | MeSH descriptor: [Abortion, Spontaneous] explode all trees                     | 991   |
| 24 | #19 or #20 or #21 or #22 or #23  | 6119  |
| 25 | #18 and #24  | 295   |

**Search Strategy: KQ S3 and NICE KQ 4, 5, 10, 12, 13, 14 also used in Embase**

- 
- 1 BLOOD GLUCOSE/ (219983)
  - 2 (blood adj3 (glucose or sugar?)).ti,ab. (149006)
  - 3 BLOOD GLUCOSE SELF-MONITORING/ (23578)
  - 4 BGSM.ti,ab. (13)
  - 5 (home glucose adj (test\$ or monitor\$)).ti,ab. (210)
  - 6 (self adj (test\$ or monitor\$)).ti,ab. (15380)
  - 7 GLUCOSE TOLERANCE TEST/ (24577)
  - 8 (glucose adj (toleran\$ or test\$ or load\$)).ti,ab. (76781)
  - 9 OGTT.ti,ab. (17645)
  - 10 (fasting adj plasma adj glucose).ti,ab. (20997)
  - 11 FPG.ti,ab. (11406)
  - 12 HEMOGLOBIN A, GLYCOSYLATED/ (21244)
  - 13 HbA1c.ti,ab. (84764)
  - 14 (h?emoglobin? adj3 glycosylat\$).ti,ab. (14763)
  - 15 (glycated adj3 h?emoglobin?).ti,ab. (18985)
  - 16 or/1-15 (432983)

**Database: Ovid MEDLINE(R) ALL <1946 to March 10, 2022>**

**Search Strategy: KQ4 (extra search) Pre-preg and GDM Medline and re run Embase**

- 
- 1 prepregnancy.mp. (3741)
  - 2 planned pregnancy.mp. (519)
  - 3 1 or 2 (4250)
  - 4 exp \*Diabetes Mellitus, Type 1/ or exp \*Diabetes Mellitus, Type 2/ (184003)
  - 5 3 and 4 (148)
  - 6 limit 5 to yr="2019 - 2022" (28)
- .....

**Database: Ovid MEDLINE(R) ALL <1946 to March 07, 2022>**

**Search Strategy: KQ 6 and 7 NICE strategy Medline**

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- 1 RISK ASSESSMENT/ or RISK FACTORS/ (1118675)
- 2 MASS tr/ (0)
- 3 screen\$.ti,ab. (861221)
- 4 or/1-3 (1907804)
- 5 (risk adj2 factor? adj2 screen\$).ti,ab. (2082)
- 6 4 or 5 (1907804)
- 7 exp GLYCOSURIA/ (4998)
- 8 ((glucose or sugar\$) adj2 urine).ti,ab. (1215)
- 9 GLUCOSE TOLERANCE TEST/ (36464)
- 10 BLOOD GLUCOSE/an [Analysis] (60212)
- 11 ((random or fast\$ or oral) adj2 blood glucose).ti,ab. (15495)
- 12 "oral glucose tolerance test".ti,ab. (15179)
- 13 (OGTT or FPG or IFG).ti,ab. (18698)
- 14 HEMOGLOBIN A, GLYCOSYLATED/ (39206)
- 15 HbA1c.ti,ab. (40043)
- 16 ((glycated or glycosylated) adj2 (haemoglobin or hemoglobin)).ti,ab. (24636)
- 17 MATERNAL SERUM SCREENING TESTS/ (568)
- 18 or/4-17 (2053432)

**Database: Embase <1974 to 2022 March 07>**

**Search Strategy: KQ 6 and 7 Embase from NICE**

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- 1 (risk adj2 factor? adj5 screen\$).ti,ab. (8925)
- 2 glycosuria.ti,ab. (2545)
- 3 ((glucose or sugar\$) adj2 urine).ti,ab. (1718)
- 4 glucose tolerance test?.ti,ab. (36151)
- 5 exp blood glucose monitoring/ or exp glucose blood level/ or exp blood glucose test strip/ or exp glucose tolerance test/ (333169)
- 6 (OGTT or FPG or IFG).ti,ab. (32634)
- 7 HbA1c.ti,ab. (84792)
- 8 ((glycated or glycosylated) adj2 (haemoglobin or hemoglobin)).ti,ab. (33029)
- 9 exp mass screening/ (275187)
- 10 exp risk factor/ (1198364)
- 11 exp disease predisposition/ (318985)
- 12 or/9-11 (1716137)
- 13 or/1-8 (413967)
- 14 12 and 13 (54207)

**Database: Ovid MEDLINE(R) ALL <1946 to March 07, 2022>**

**Search Strategy: KQ 9 Medline from NICE**

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- 1 exp LIFE STYLE/ (105123)
- 2 ((life style\$ or life?style\$) adj3 (modif\$ or chang\$ or advi\$ or therap\$)).ti,ab. (27290)
- 3 WEIGHT LOSS/ (40497)
- 4 WEIGHT REDUCTION PROGRAMS/ (2689)
- 5 DIABETIC DIET/ (4970)
- 6 DIET THERAPY/ (10904)
- 7 DIET, REDUCING/ (11409)
- 8 CALORIC RESTRICTION/ (6882)
- 9 (diet\$ adj2 (therap\$ or advi\$ or modif\$ or chang\$)).ti,ab. (34933)
- 10 (diet\$ adj5 (diabet\$ or carbohydrat\$ or fat\$ or weigh\$ or sugar\$ or glyc?em\$ or restrict\$ or reduc\$ or hypocalor\$)).ti,ab. (146027)
- 11 (weigh\$ adj3 (los\$ or reduc\$)).ti,ab. (141696)
- 12 ((calori\$ or calory) adj3 (restrict\$ or reduc\$ or low)).ti,ab. (15221)



- 13 exp EXERCISE/ (227041)
- 14 exp EXERCISE THERAPY/ (58621)
- 15 exp EXERCISE MOVEMENT TECHNIQUES/ (9533)
- 16 exp "PHYSICAL EDUCATION AND TRAINING"/ (13931)
- 17 PHYSICAL FITNESS/ (28838)
- 18 exp SPORTS/ (203083)
- 19 (exercis\$ or sport\$ or kinesi?therap\$).ti,ab. (398052)
- 20 (physic\$ adj5 (activ\$ or fit\$)).ti,ab. (165270)
- 21 METFORMIN/ (15966)
- 22 (metformin or glucophage or glucient or metsol or bolamyn or metabet).ti,ab. (24123)
- 23 GLYBURIDE/ (6358)
- 24 (gl#bencl#mid? or gl#buride).ti,ab. (10600)
- 25 exp INSULIN/tu [Therapeutic Use] (24258)
- 26 exp INSULINS/tu [Therapeutic Use] (25661)
- 27 insulin\$.ti,ab. (387427)
- 28 or/1-27 (1404615)

**Database: Embase <1974 to 2022 March 07>**

**Search Strategy: KQ 9 Embase from NICE**

- 
- 1 LIFESTYLE/ (124167)
  - 2 LIFESTYLE MODIFICATION/ (44804)
  - 3 ((life style\$ or life?style\$) adj3 (modif\$ or chang\$ or advi\$ or therap\$)).ti,ab. (41257)
  - 4 WEIGHT REDUCTION/ (171185)
  - 5 DIABETIC DIET/ (4364)
  - 6 DIET THERAPY/ (57641)
  - 7 DIET RESTRICTION/ (93208)
  - 8 LOW CALORY DIET/ (8395)
  - 9 CALORIC RESTRICTION/ (17923)
  - 10 (diet\$ adj2 (therap\$ or advi\$ or modif\$ or chang\$)).ti,ab. (48017)
  - 11 (diet\$ adj5 (diabet\$ or carbohydrat\$ or fat\$ or weigh\$ or sugar\$ or glyc?em\$ or restrict\$ or reduc\$ or hypocalor\$)).ti,ab. (194781)
  - 12 (weigh\$ adj3 (los\$ or reduc\$)).ti,ab. (219006)
  - 13 ((calori\$ or calory) adj3 (restrict\$ or reduc\$ or low)).ti,ab. (20385)
  - 14 exp EXERCISE/ (384063)
  - 15 exp PHYSICAL ACTIVITY/ (479795)
  - 16 FITNESS/ (39317)
  - 17 exp KINESIOTHERAPY/ (88889)
  - 18 PHYSICAL EDUCATION/ (12153)
  - 19 exp SPORT/ (190144)
  - 20 (exercis\$ or sport\$ or kinesi?therap\$).ti,ab. (526910)
  - 21 (physic\$ adj5 (activ\$ or fit\$)).ti,ab. (222371)
  - 22 METFORMIN/ (74226)
  - 23 (metformin or glucophage or glucient or metsol or bolamyn or metabet).ti,ab. (41012)
  - 24 GLIBENCLAMIDE/ (26210)
  - 25 (gl#bencl#mid? or gl#buride).ti,ab. (14309)
  - 26 exp INSULIN DERIVATIVE/ct, dt [Clinical Trial, Drug Therapy] (75288)
  - 27 insulin\$.ti,ab. (516370)
  - 28 or/1-27 (2262162)

**Database: Ovid MEDLINE(R) ALL <1946 to March 07, 2022>**

**Search Strategy: KQ11 Medline from NICE**

- 
- 1 KETONES/ or KETONE BODIES/ (21647)
  - 2 3-HYDROXYBUTYRIC ACID/ (4324)
  - 3 (keton?e\$ or hyperketon?e\$ or ketonuria or hyperketonuria).ti,ab. (36317)
  - 4 (ketone? or hydroxy butyr\$ or hydroxybutyr\$ or beta hydroxybutyr\$ or betahydroxybutyr\$ or "3 hydroxybutyr\$" or "3-hydroxybutyr\$" or 3hydroxybutyr\$ or OHB or beta OHB or betaOHB or B OHB or BOHB or "3 OHB" or "3-OHB" or 3OHB or "3 HB" or "3-HB" or 3HB).ti,ab,nm. (71672)

- 5 exp KETOSIS/ (9361)
- 6 (diabet\$ adj3 (ketogenesis or ketosis or ketoacido\$)).ti,ab. (7381)
- 7 DKA.ti,ab. (2543)
- 8 or/1-7 (82615)
- 9 MONITORING, PHYSIOLOGIC/ or BLOOD GLUCOSE SELF-MONITORING/ or exp FETAL MONITORING/ or SELF CARE/ (108273)
- 10 (self monitor\$ or monitor\$ or meter\$ or measur\$ or test\$ or screen\$ or determin\$ or assess\$ or surveillance or check\$).ti,ab. (11521811)
- 11 9 or 10 (11556680)
- 12 8 and 11 (27943)
- 13 ((capillar\$ or blood\$ or plasma or serum or urine or urinary) adj5 (ketone? or hydroxy butyr\$ or hydroxybutyr\$ or beta hydroxybutyr\$ or betahydroxybutyr\$ or "3 hydroxybutyr\$" or "3-hydroxybutyr\$" or 3hydroxybutyr\$ or OHB or beta OHB or betaOHB or B OHB or BOHB or "3 OHB" or "3-OHB" or 3OHB or "3 HB" or "3-HB" or 3HB)).ti,ab. (4919)
- 14 12 or 13 (29808)

**Database: Embase <1974 to 2022 March 07>**

**Search Strategy: KQ11 Embase from NICE**

- 
- 1 KETOGENESIS/ (2532)
  - 2 KETONE/ (21973)
  - 3 KETONE BODY/ (5779)
  - 4 KETONURIA/ (2364)
  - 5 3 HYDROXYBUTYRIC ACID/ (9035)
  - 6 DIABETIC KETOACIDOSIS/ (14584)
  - 7 (keton?e\$ or hyperketon?e\$ or keton?ur\$ or hyperketon?e\$).ti,ab. (49911)
  - 8 (hydroxy butyr\$ or hydroxybutyr\$ or beta hydroxybutyr\$ or betahydroxybutyr\$ or "3 hydroxybutyr\$" or 3hydroxybutyr\$ or OHB or beta OHB or betaOHB or "B OHB" or 3OHB or "3 OHB" or BHB? or 3HB or "3 HB").ti,ab. (19658)
  - 9 (diabet\$ adj3 (ketogenesis or ketosis or ketoacido\$)).ti,ab. (11506)
  - 10 DKA.ti,ab. (5644)
  - 11 or/1-10 (93344)
  - 12 PATIENT MONITORING/ (95266)
  - 13 FETUS MONITORING/ (11283)
  - 14 BLOOD GLUCOSE MONITORING/ (30667)
  - 15 SELF CARE/ (67355)
  - 16 (self monitor\$ or monitor\$ or meter\$ or measure\$ or test\$ or assess\$ or screen\$ or determin\$ or surveillance or check\$).ti,ab. (14829422)
  - 17 or/12-16 (14900047)
  - 18 11 and 17 (34857)
  - 19 ((capillar\$ or blood\$ or plasma or serum or urine or urinary) adj5 (keton\$ or hydroxy butyr\$ or hydroxybutyr\$ or beta hydroxybutyr\$ or betahydroxybutyr\$ or "3 hydroxybutyr\$" or 3hydroxybutyr\$ or OHB or beta OHB or betaOHB or "B OHB" or 3OHB or "3 OHB" or BHB? or 3HB or "3 HB")).ti,ab. (7120)
  - 20 18 or 19 (37270)

**Database: Embase <1974 to 2022 March 10>**

**Search Strategy: KQ11 extra search (Ketones) for Medline and Embase**

- 
- 1 ketones.mp. or exp \*ketone/ (352285)
  - 2 exp \*pregnancy/ (191115)
  - 3 1 and 2 (1158)
  - 4 exp \*diabetes insipidus/ or exp \*diabetes mellitus/ (548053)
  - 5 gestational diabetes.mp. or exp \*pregnancy diabetes mellitus/ (34029)
  - 6 4 or 5 (558102)
  - 7 limit 3 to yr="2019 - 2022" (69)
  - 8 6 and 7 (6)
- .....

**Database: Ovid MEDLINE(R) ALL <1946 to March 07, 2022>**

**Search Strategy: KQ17 Medline from NICE**

---

- 1 FETAL DEATH/ (24618)
- 2 ((foetal or fetal or fetus\$ or foetus\$) adj (death or dying or demise)).ti,ab. (8794)
- 3 (intrauterine adj2 death).ti,ab. (3235)
- 4 STILLBIRTH/ (5701)
- 5 IUFD.ti,ab. (443)
- 6 (stillbirth or still?born).ti,ab. (12400)
- 7 INFANT MORTALITY/ (29543)
- 8 ((peri?natal\$ or neo?natal\$) adj3 (death? or dying or mortality or demise)).ti,ab. (33415)
- 9 LABOR, INDUCED/ (9876)
- 10 ((induct\$ or induc\$) adj3 lab?or).ti,ab. (6690)
- 11 ((elective or planned) adj2 (birth? or deliver\$ or induct\$ or caesar#an\$ or cesar#an\$)).ti,ab. (10443)
- 12 exp DELIVERY, OBSTETRIC/ (86839)
- 13 WATCHFUL WAITING/ (4789)
- 14 (expectant adj3 (manag\$ or monitor\$)).ti,ab. (3092)
- 15 or/2-14 (162680)
- 16 GESTATIONAL AGE/ (86508)
- 17 (gestation\$ adj age?).ti,ab. (80145)
- 18 TIME FACTORS/ (1225880)
- 19 ((time or timing) adj3 (birth or deliver\$ or induction or inducted or cesarean? or caesarean or c?section?)).ti,ab. (23458)
- 20 ((optimal or optimum) adj3 (time or timing)).ti,ab. (18861)
- 21 or/16-20 (1387163)
- 22 and/1,15,21 (3059)

**Database: Embase <1974 to 2022 March 07>**

**Search Strategy: Embase KQ17 from NICE**

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- 1 FETUS DEATH/ or STILLBIRTH/ (40830)
- 2 ((foetal or fetal or fetus\$ or foetus\$) adj (death or dying or demise)).ti,ab. (12704)
- 3 (intrauterine adj2 death).ti,ab. (4624)
- 4 IUFD.ti,ab. (1072)
- 5 (stillbirth or still?born).ti,ab. (16854)
- 6 ((peri?natal\$ or neo?natal\$) adj3 (death? or dying or mortality or demise)).ti,ab. (43666)
- 7 NEWBORN DEATH/ (11064)
- 8 LABOR INDUCTION/ (14348)
- 9 ((induct\$ or induc\$) adj3 lab?or).ti,ab. (8730)
- 10 ((elective or planned) adj2 (birth? or deliver\$ or induct\$ or caesar#an\$ or cesar#an\$)).ti,ab. (16209)
- 11 exp DELIVERY/ (168498)
- 12 WATCHFUL WAITING/ (5053)
- 13 conservative treatment/ or watchful waiting/ (97195)
- 14 (expectant adj3 (manag\$ or monitor\$)).ti,ab. (4689)
- 15 or/1-14 (341425)
- 16 GESTATIONAL AGE/ (155447)
- 17 (gestation\$ adj age?).ti,ab. (115044)
- 18 TIME/ (323364)
- 19 ((time or timing) adj3 (birth or deliver\$ or induction or inducted or cesarean? or caesarean or c?section?)).ti,ab. (34457)
- 20 ((optimal or optimum) adj3 (time or timing)).ti,ab. (26725)
- 21 or/16-20 (566200)
- 22 21 and 16 (155447)

**Database: Ovid MEDLINE(R) ALL <1946 to March 07, 2022>**

**Search Strategy: KQ19 Medline & Embase NICE**

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- 1 fasting plasma glucose.ti,ab. (13924)
- 2 FPG.ti,ab. (6697)
- 3 HbA1c.ti,ab. (40043)
- 4 "Early elevated maternal HbA1c".kw. (1)
- 5 \*Glucose Tolerance Test/ (5504)
- 6 (75g adj OGTT).ti,ab. (91)
- 7 or/1-6 (57305)

COCHRANE

**Search Name: KQ S1**

**Date Run: 08/03/2022 17:52:30**

| ID | Search  | Hits  |
|----|---|-------|
| 1  | first trimester   | 4139  |
| 2  | MeSH descriptor: [Pregnancy Trimester, First] explode all trees | 685   |
| 3  | #1 or #2  | 4139  |
| 4  | HbA1c   | 20149 |
| 5  | MeSH descriptor: [Blood Glucose] explode all trees              | 17240 |
| 6  | #4 or #5  | 34492 |
| 7  | #3 and #6   | 83    |

**Search Name: KQ S2 (Risk factors)**

**Date Run: 10/03/2022 09:48:45**

| ID | Search   | Hits  |
|----|--|-------|
| 1  | intrauterine death   | 872   |
| 2  | fetal loss   | 1723  |
| 3  | polycystic ovary syndrome  | 3799  |
| 4  | elderly primigravida   | 5     |
| 5  | geriatric pregnancy  | 52    |
| 6  | advanced maternal age  | 533   |
| 7  | asian ethnicity  | 964   |
| 8  | ethnic predisposition  | 79    |
| 9  | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8                           | 7493  |
| 10 | MeSH descriptor: [Fetal Death] explode all trees                       | 385   |
| 11 | MeSH descriptor: [Polycystic Ovary Syndrome] explode all trees         | 1674  |
| 12 | MeSH descriptor: [Asians] explode all trees                            | 2653  |
| 13 | #10 or #11 or #12  | 4709  |
| 14 | #9 or #13  | 10294 |
| 15 | gestational diabetes   | 3888  |
| 16 | MeSH descriptor: [Diabetes, Gestational] explode all trees             | 1097  |
| 17 | #15 or #16   | 3926  |
| 18 | #14 and #17 with Cochrane Library publication date Jan 2019 – Mar 2022 | 192   |

**Search Name: KQ S3 (75g OGTT) also NICE KQ 04, 05, 06, 07, 10, 12, 14, 18, 19**

**Date Run: 10/03/2022 09:56:43**

**Comment: KQ19 also requires other tests searches to be run, see below**

| ID | Search   | Hits |
|----|--|------|
| 1  | 75g OGTT   | 206  |
| 2  | MeSH descriptor: [Glucose Tolerance Test] explode all trees          | 2121 |
| 3  | #1 or #2   | 2317 |
| 4  | gestational diabetes   | 3888 |
| 5  | MeSH descriptor: [Diabetes, Gestational] explode all trees           | 1097 |
| 6  | #4 or #5   | 3926 |
| 7  | #3 and #6 with Cochrane Library publication date Jan 2019 – Mar 2022 | 63   |

**Search Name: KQ9 Cochrane****Date Run: 11/03/2022 14:12:09**

| ID | Search   | Hits  |
|----|--|-------|
| 1  | exercise intervention47201   |       |
| 2  | diet intervention  | 28498 |
| 3  | MeSH descriptor: [Exercise Therapy] explode all trees                  | 15822 |
| 4  | MeSH descriptor: [Diet Therapy] explode all trees                      | 6475  |
| 5  | #1 or #2 or #3 or #4   | 80414 |
| 6  | insulin therapy  | 36365 |
| 7  | MeSH descriptor: [Insulins] explode all trees                          | 15115 |
| 8  | metformin  | 11962 |
| 9  | MeSH descriptor: [Metformin] explode all trees                         | 4412  |
| 10 | Glibenclamide  | 1009  |
| 11 | MeSH descriptor: [Glyburide] explode all trees                         | 622   |
| 12 | glyburide  | 821   |
| 13 | #6 or #7 or #8 or #9 or #10 or #11 or #12                              | 49392 |
| 14 | #5 and #13   | 5856  |
| 15 | gestational diabetes   | 3888  |
| 16 | MeSH descriptor: [Diabetes, Gestational] explode all trees             | 1097  |
| 17 | #15 or #16   | 3926  |
| 18 | #14 and #17 with Cochrane Library publication date Jan 2019 – Mar 2022 | 107   |

**Search Name: KQ13, 14, 18****Date Run: 15/03/2022 23:09:51**

| ID | Search   | Hits  |
|----|--|-------|
| 1  | gestational diabetes   | 3888  |
| 2  | type 1 diabetes  | 66374 |
| 3  | type 2 diabetes  | 72699 |
| 4  | MeSH descriptor: [Diabetes, Gestational] explode all trees             | 1097  |
| 5  | MeSH descriptor: [Diabetes Mellitus, Type 1] explode all trees         | 5949  |
| 6  | MeSH descriptor: [Diabetes Mellitus, Type 2] explode all trees         | 19547 |
| 7  | diabetes mellitus  | 72433 |
| 8  | diabetes insipidus   | 215   |
| 9  | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8                           | 89001 |
| 10 | adverse outcomes   | 62927 |
| 11 | MeSH descriptor: [Pregnancy Complications] explode all trees           | 12181 |
| 12 | MeSH descriptor: [Pregnancy Complications] explode all trees           | 12181 |
| 13 | #10 or #11 or #12  | 73509 |
| 14 | #9 and #13   | 7284  |
| 15 | HbA1c  | 20149 |
| 16 | MeSH descriptor: [Glycated Hemoglobin A] explode all trees             | 6286  |
| 17 | #15 and #16  | 3136  |
| 18 | #14 and #17 with Cochrane Library publication date Jan 2019 – Mar 2022 | 74    |

**Search Name: KQ17****Date Run: 17/03/2022 11:54:27**

| ID | Search   | Hits |
|----|--|------|
| 1  | intrauterine death   | 872  |
| 2  | fetal death  | 2383 |
| 3  | fetal loss   | 1723 |
| 4  | MeSH descriptor: [Fetal Death] explode all trees           | 385  |
| 5  | MeSH descriptor: [Abortion, Spontaneous] explode all trees | 972  |

|           |  |      |
|-----------|--|------|
| <b>6</b>  | #1 or #2 or #3 or #4 or #5   | 4509 |
| <b>7</b>  | gestational diabetes   | 3888 |
| <b>8</b>  | MeSH descriptor: [Diabetes, Gestational] explode all trees           | 1097 |
| <b>9</b>  | #7 or #8   | 3926 |
| <b>10</b> | #6 and #9 with Cochrane Library publication date Jan 2019 – Mar 2022 | 192  |

**Search Name: KQ18 and 19**

**Date Run: 17/03/2022 12:09:35**

| ID        | Search   | Hits  |
|-----------|--|-------|
| <b>1</b>  | OGTT   | 2600  |
| <b>2</b>  | FPG  | 3005  |
| <b>3</b>  | HbA1c  | 20149 |
| <b>4</b>  | blood glucose  | 56144 |
| <b>5</b>  | MeSH descriptor: [Glycated Hemoglobin A] explode all trees             | 6286  |
| <b>6</b>  | blood glucose  | 56144 |
| <b>7</b>  | #1 or #2 or #3 or #4 or #5 or #6                                       | 67000 |
| <b>8</b>  | gestational diabetes   | 3888  |
| <b>9</b>  | MeSH descriptor: [Diabetes, Gestational] explode all trees             | 1097  |
| <b>10</b> | #8 or #9   | 3926  |
| <b>11</b> | #7 and #10   | 1669  |
| <b>12</b> | postnatal  | 6145  |
| <b>13</b> | post natal   | 715   |
| <b>14</b> | MeSH descriptor: [Postpartum Period] explode all trees                 | 1848  |
| <b>15</b> | postpartum   | 12107 |
| <b>16</b> | #12 or #13 or #14 or #15   | 16706 |
| <b>17</b> | #11 and #16 with Cochrane Library publication date Jan 2019 – Mar 2022 | 168   |