

MEDICAL LITERATURE RETRIEVAL PACKET

Retrieval records for the sources in the packet memo

Prepared for counsel. Subject to review and verification by retaining counsel.

SYNTHETIC SAMPLE. The question is a synthetic framing of a public clinical topic. The sources are real and were retrieved from PubMed on September 23, 2026. No article text is reproduced beyond a quotation of 15 words or fewer. Open-access full texts are linked, not copied.

Question, as counsel framed it (SYNTHETIC)

What does the published literature report about the association between the decision-to-delivery interval (DDI) for emergency cesarean delivery and neonatal outcomes?

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#	Source	Study type	Statement (quoted)	Record
1	Heller 2017	Retrospective population-based analysis	"an association between DDI of 20 minutes or less and the avoidance of outcomes"	p.2
2	Brandt 2020	Retrospective single-center cohort	"Duration of DDI had no significant impact on the incidence of adverse neonatal outcome"	p.3
3	Tomlinson 2017	Narrative review	"Current medical evidence does not support this time frame."	p.4
4	Weiner 2014	Before-and-after program evaluation	"was associated with improved early neonatal outcome without change in maternal complications"	p.5
5	Gupta 2017	Prospective audit	"There was no significant association between DDI and occurrence of neonatal complications."	p.6
6	Kitaw 2021	Prospective cohort	"prolonged decision to delivery interval had a statistically significant association"	p.7
7	Hughes 2020	Retrospective cohort	"There was no association between decision-to-delivery interval and adverse perinatal outcomes"	p.8
8	Khemworapong 2018	Cohort, single tertiary hospital	"Neonatal outcomes were comparable between different DDIs."	p.9
9	Boriboonhirunsarn 2016	Cross-sectional review	"Neonatal outcomes were comparable among different DDI categories."	p.10
10	Tashfeen 2017	Repeated cross-sectional audit	"a DDI of >60 minutes was significantly associated with poor neonatal outcomes"	p.11
11	Bello 2015	Prospective observational	"the DDI could be less important for perinatal outcome than are some other factors"	p.12
12	Hillemanns 2005	Retrospective analysis	"Very short decision-to-delivery times below 20 min were inversely correlated to fetal outcome"	p.13
13	Yilmaz 2026	Retrospective cohort	"Cardiotocography category was a stronger predictor of neonatal acid-base status and Apgar scores"	p.14
14	Damtew 2024	Multicenter prospective observational	"significant relationship between the first-minute low Apgar score and the delayed decision-to-delivery time interval"	p.15
15	Sunsaneevithayakul 2022	Retrospective review after protocol	"No significant differences in adverse maternal and neonatal outcomes were detected"	p.16
16	Ayeni 2021	Prospective cross-sectional	"logistic regression showed no statistical correlation between the DDI and neonatal outcomes"	p.17
17	Temesgen 2020	Prospective observational cohort	"longer than the recommended time but it did not affect fetal-maternal outcomes"	p.18

Retrieval record 1: Heller 2017

Field	Detail
Citation	Heller G, Bauer E, Schill S, et al. Decision-to-Delivery Time and Perinatal Complications in Emergency Cesarean Section. Dtsch Arztebl Int. 2017;114(35-36):589-596.
Study type (from the abstract)	Retrospective population-based analysis
Size (from the abstract)	39,291 neonates
Statement on the question (quoted)	"an association between DDI of 20 minutes or less and the avoidance of outcomes"
Where	Abstract, Conclusion
Copyright or license (PubMed and PMC metadata)	Not stated in PubMed or PMC metadata
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 28927497 DOI 10.3238/arztebl.2017.0589 PMC5615394 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 2: Brandt 2020

Field	Detail
Citation	Brandt JA, Morgenstern B, Thangarajah F, et al. Evaluating the Decision-to-Delivery Interval in Emergency Cesarean Sections and its Impact on Neonatal Outcome. In Vivo. 2020;34(6):3341-3347.
Study type (from the abstract)	Retrospective single-center cohort
Size (from the abstract)	437 patients
Statement on the question (quoted)	"Duration of DDI had no significant impact on the incidence of adverse neonatal outcome"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	All rights reserved
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 33144441 DOI 10.21873/invivo.12172 PMC7811619 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 3: Tomlinson 2017

Field	Detail
Citation	Tomlinson JH, Lucas DN. Decision-to-delivery interval: Is 30 min the magic time? What is the evidence? Does it work? Best Pract Res Clin Anaesthesiol. 2017;31(1):49-56.
Study type (from the abstract)	Narrative review
Size (from the abstract)	Not applicable
Statement on the question (quoted)	"Current medical evidence does not support this time frame."
Where	Abstract
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 28625305 DOI 10.1016/j.bpa.2017.04.001
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 4: Weiner 2014

Field	Detail
Citation	Weiner E, Bar J, Fainstein N, et al. The effect of a program to shorten the decision-to-delivery interval for emergent cesarean section on maternal and neonatal outcome. Am J Obstet Gynecol. 2014;210(3):224.e1-6.
Study type (from the abstract)	Before-and-after program evaluation
Size (from the abstract)	593 cesareans
Statement on the question (quoted)	"was associated with improved early neonatal outcome without change in maternal complications"
Where	Abstract, Conclusion
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 24565432 DOI 10.1016/j.ajog.2014.01.007
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 5: Gupta 2017

Field	Detail
Citation	Gupta S, Naithani U, Madhanmohan C, et al. Evaluation of decision-to-delivery interval in emergency cesarean section: A 1-year prospective audit in a tertiary care hospital. J Anaesthesiol Clin Pharmacol. 2017;33(1):64-70.
Study type (from the abstract)	Prospective audit
Size (from the abstract)	453 cesareans
Statement on the question (quoted)	"There was no significant association between DDI and occurrence of neonatal complications."
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	Creative Commons BY-NC-SA 3.0 (open access)
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 28413274 DOI 10.4103/0970-9185.202197 PMC5374832 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 6: Kitaw 2021

Field	Detail
Citation	Kitaw TM, Tsegaw Taye B, Tadese M, Getaneh T. Effect of decision to delivery interval on perinatal outcomes during emergency cesarean deliveries in Ethiopia: A prospective cohort study. PLoS One. 2021;16(11):e0258742.
Study type (from the abstract)	Prospective cohort
Size (from the abstract)	182 participants
Statement on the question (quoted)	"prolonged decision to delivery interval had a statistically significant association"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	CC BY 4.0 (open access)
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 34748563 DOI 10.1371/journal.pone.0258742 PMC8575252 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 7: Hughes 2020

Field	Detail
Citation	Hughes NJ, Namagembe I, Nakimuli A, et al. Decision-to-delivery interval of emergency cesarean section in Uganda: a retrospective cohort study. BMC Pregnancy Childbirth. 2020;20(1):324.
Study type (from the abstract)	Retrospective cohort
Size (from the abstract)	344 pregnancies
Statement on the question (quoted)	"There was no association between decision-to-delivery interval and adverse perinatal outcomes"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	CC BY 4.0 (open access)
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 32460720 DOI 10.1186/s12884-020-03010-x PMC7251662 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 8: Khemworapong 2018

Field	Detail
Citation	Khemworapong K, Sompagdee N, Boriboonhirunsarn D. Decision-to-delivery interval in emergency cesarean delivery in tertiary care hospital in Thailand. Obstet Gynecol Sci. 2018;61(1):48-55.
Study type (from the abstract)	Cohort, single tertiary hospital
Size (from the abstract)	431 women
Statement on the question (quoted)	"Neonatal outcomes were comparable between different DDIs."
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	Creative Commons BY-NC 3.0 (open access)
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 29372149 DOI 10.5468/ogs.2018.61.1.48 PMC5780320 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 9: Boriboonhirunsarn 2016

Field	Detail
Citation	Boriboonhirunsarn D, Watananirun K, Sompagdee N. Decision-to-delivery interval in pregnant women with intrapartum non-reassuring fetal heart rate patterns. J Eval Clin Pract. 2016;22(6):998-1002.
Study type (from the abstract)	Cross-sectional review
Size (from the abstract)	272 women
Statement on the question (quoted)	"Neonatal outcomes were comparable among different DDI categories."
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 27515180 DOI 10.1111/jep.12613
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 10: Tashfeen 2017

Field	Detail
Citation	Tashfeen K, Patel M, Hamdi IM, et al. Decision-to-Delivery Time Intervals in Emergency Caesarean Section Cases: Repeated cross-sectional study from Oman. Sultan Qaboos Univ Med J. 2017;17(1):e38-e42.
Study type (from the abstract)	Repeated cross-sectional audit
Size (from the abstract)	246 cases (three cycles)
Statement on the question (quoted)	"a DDI of >60 minutes was significantly associated with poor neonatal outcomes"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	All rights reserved
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 28417027 DOI 10.18295/squmj.2016.17.01.008 PMC5380420 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 11: Bello 2015

Field	Detail
Citation	Bello FA, Tsele TA, Oluwasola TO. Decision-to-delivery intervals and perinatal outcomes following emergency cesarean delivery in a Nigerian tertiary hospital. Int J Gynaecol Obstet. 2015;130(3):279-83.
Study type (from the abstract)	Prospective observational
Size (from the abstract)	235 cesareans
Statement on the question (quoted)	"the DDI could be less important for perinatal outcome than are some other factors"
Where	Abstract, Conclusion
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 26058530 DOI 10.1016/j.ijgo.2015.03.036
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 12: Hillemanns 2005

Field	Detail
Citation	Hillemanns P, Strauss A, Hasbargen U, et al. Crash emergency cesarean section: decision-to-delivery interval under 30 min and its effect on Apgar and umbilical artery pH. Arch Gynecol Obstet. 2005;273(3):161-5.
Study type (from the abstract)	Retrospective analysis
Size (from the abstract)	109 cesareans
Statement on the question (quoted)	"Very short decision-to-delivery times below 20 min were inversely correlated to fetal outcome"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 16044190 DOI 10.1007/s00404-005-0045-7
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 13: Yilmaz 2026

Field	Detail
Citation	Yilmaz A, Kurt D. Cardiotocography patterns are stronger predictors of neonatal acidemia than decision-to-delivery interval in emergency cesarean deliveries. Ginekol Pol. 2026;97(8):683-690.
Study type (from the abstract)	Retrospective cohort
Size (from the abstract)	131 patients
Statement on the question (quoted)	"Cardiotocography category was a stronger predictor of neonatal acid-base status and Apgar scores"
Where	Abstract, Conclusion
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 42517381 DOI 10.5603/gpl.108951
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 14: Damtew 2024

Field	Detail
Citation	Damtew BS, Gudayu TW, Temesgan WZ, Hailu AM. Effect of Decision-to-Delivery Time of Emergency Cesarean Section on Adverse Newborn Outcomes at East Gojjam Zone Public Hospital, Ethiopia. Int J Womens Health. 2024;16:433-450.
Study type (from the abstract)	Multicenter prospective observational
Size (from the abstract)	352 mother-newborn pairs
Statement on the question (quoted)	"significant relationship between the first-minute low Apgar score and the delayed decision-to-delivery time interval"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	Not stated in PubMed metadata
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 38469355 DOI 10.2147/IJWH.S451101 PMC10926860 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 15: Sunsaneevithayakul 2022

Field	Detail
Citation	Sunsaneevithayakul P, Talungchit P, Wayuphak T, et al. Decision-to-Delivery Interval After Implementation of a Specific Protocol for Emergency Cesarean Delivery Because of Category III Fetal Heart Rate Tracings. J Obstet Gynaecol Can. 2022;44(11):1153-1158.
Study type (from the abstract)	Retrospective review after protocol
Size (from the abstract)	254 cesareans
Statement on the question (quoted)	"No significant differences in adverse maternal and neonatal outcomes were detected"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	No PMC full text; abstract only
Full text	Not in PubMed Central; abstract read.
Links	PubMed 36096428 DOI 10.1016/j.jogc.2022.09.001
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 16: Ayeni 2021

Field	Detail
Citation	Ayeni OM, Aboyaji AP, Ijaiya MA, et al. Determinants of the decision-to-delivery interval and the effect on perinatal outcome after emergency caesarean delivery: a cross-sectional study. Malawi Med J. 2021;33(1):28-36.
Study type (from the abstract)	Prospective cross-sectional
Size (from the abstract)	205 women
Statement on the question (quoted)	"logistic regression showed no statistical correlation between the DDI and neonatal outcomes"
Where	Abstract, Results
Copyright or license (PubMed and PMC metadata)	Not stated in PubMed metadata
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 34422231 DOI 10.4314/mmj.v33i1.5 PMC8360283 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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Retrieval record 17: Temesgen 2020

Field	Detail
Citation	Temesgen MM, Gebregzi AH, Kasahun HG, et al. Evaluation of decision to delivery time interval and its effect on fetal-maternal outcomes and associated factors in category-1 emergency caesarean section deliveries. BMC Pregnancy Childbirth. 2020;20(1):164.
Study type (from the abstract)	Prospective observational cohort
Size (from the abstract)	163 women
Statement on the question (quoted)	"longer than the recommended time but it did not affect fetal-maternal outcomes"
Where	Abstract, Conclusion
Copyright or license (PubMed and PMC metadata)	CC BY 4.0 (open access)
Full text	Available in PubMed Central; linked, not reproduced.
Links	PubMed 32183720 DOI 10.1186/s12884-020-2828-z PMC7077147 (PubMed Central)
Retrieved	September 23, 2026, PubMed (National Library of Medicine) via E-utilities.

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