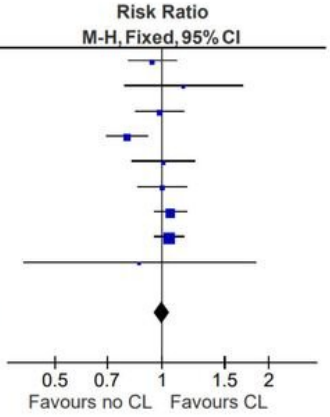
Nature's way is best, even when it comes to IVF

April 29 2022

Rates of Positive hCG

Study or Subgroup	With CL Events	With CL Total	Without CL Events	Without CL Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Alur-Gupta 2018	64	104	602	917	7.7%	0.94 [0.80, 1.10]
Cardenas Armas 2019	16	32	76	175	1.5%	1.15 [0.78, 1.69]
Chang 2011	229	444	107	204	9.2%	0.98 [0.84, 1.15]
Givens 2009	369	858	141	261	13.5%	0.80 [0.69, 0.91]
Greco 2016	68	109	70	113	4.3%	1.01 [0.82, 1.24]
Le 2017	120	197	110	181	7.2%	1.00 [0.85, 1.18]
Levi Setti 2020	1012	2304	243	584	24.3%	1.06 [0.95, 1.17]
Pakes 2020	802	2033	376	997	31.6%	1.05 [0.95, 1.15]
Sheikhi 2018	10	57	12	59	0.7%	0.86 [0.40, 1.84]
Total (95% CI)		**6138**		**3491**	**100.0%**	**1.00 [0.95, 1.05]**
Total events	2690		1737			

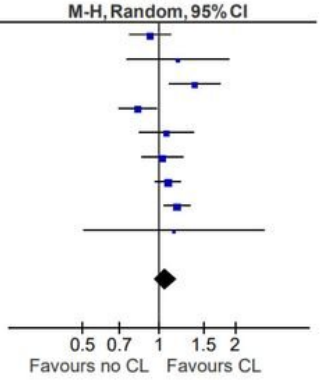
Heterogeneity: Chi² = 13.86, df = 8 (P = 0.09); I² = 42%
Test for overall effect: Z = 0.16 (P = 0.87)



Clinical Pregnancy Rates

Study or Subgroup	With CL Events	With CL Total	Without CL Events	Without CL Total	Weight	Risk Ratio M-H, Random, 95% CI
Alur-Gupta 2018	55	104	523	917	12.9%	0.93 [0.77, 1.12]
Cardenas Armas 2019	13	32	60	175	4.0%	1.18 [0.74, 1.89]
Chang 2011	186	444	62	204	10.5%	1.38 [1.09, 1.74]
Givens 2009	284	858	105	261	13.7%	0.82 [0.69, 0.98]
Greco 2016	59	109	57	113	9.7%	1.07 [0.83, 1.38]
Le 2017	107	197	95	181	12.9%	1.03 [0.86, 1.25]
Levi Setti 2020	930	2304	217	584	17.6%	1.09 [0.97, 1.22]
Pakes 2020	627	2033	260	997	17.2%	1.18 [1.05, 1.34]
Sheikhi 2018	10	57	9	59	1.5%	1.15 [0.50, 2.62]
Total (95% CI)		**6138**		**3491**	**100.0%**	**1.06 [0.96, 1.18]**
Total events	2271		1388			

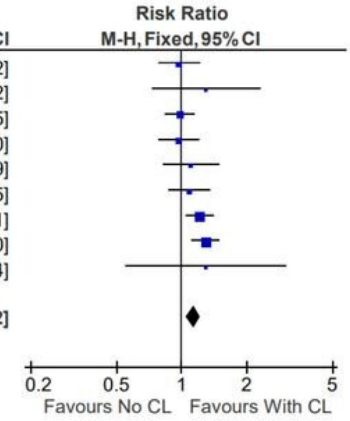
Heterogeneity: Tau² = 0.01; Chi² = 18.35, df = 8 (P = 0.02); I² = 56%
Test for overall effect: Z = 1.15 (P = 0.25)



Live Births and Ongoing Pregnancy Rates

Study or Subgroup	With CL Events	With CL Total	Without CL Events	Without CL Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Alur-Gupta 2018	47	104	425	917	8.7%	0.98 [0.78, 1.22]
Cardenas Armas 2019	10	32	42	175	1.3%	1.30 [0.73, 2.32]
Chang 2011	229	444	107	204	14.8%	0.98 [0.84, 1.15]
Givens 2009	245	858	77	261	11.9%	0.97 [0.78, 1.20]
Greco 2016	50	109	47	113	4.6%	1.10 [0.82, 1.49]
Le 2017	93	197	79	181	8.3%	1.08 [0.87, 1.35]
Levi Setti 2020	722	2304	151	584	24.2%	1.21 [1.04, 1.41]
Pakes 2020	496	2033	188	997	25.4%	1.29 [1.11, 1.50]
Sheikhi 2018	10	57	8	59	0.8%	1.29 [0.55, 3.04]
Total (95% CI)		**6138**		**3491**	**100.0%**	**1.14 [1.06, 1.22]**
Total events	1902		1124			

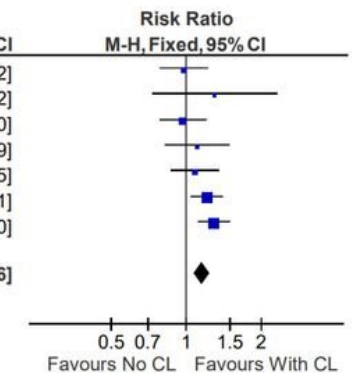
Heterogeneity: Chi² = 11.23, df = 8 (P = 0.19); I² = 29%
Test for overall effect: Z = 3.50 (P = 0.0005)



Live Births Rates Only

Study or Subgroup	With CL Events	With CL Total	Without CL Events	Without CL Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Alur-Gupta 2018	47	104	425	917	10.3%	0.98 [0.78, 1.22]
Cardenas Armas 2019	10	32	42	175	1.5%	1.30 [0.73, 2.32]
Givens 2009	245	858	77	261	14.1%	0.97 [0.78, 1.20]
Greco 2016	50	109	47	113	5.5%	1.10 [0.82, 1.49]
Le 2017	93	197	79	181	9.8%	1.08 [0.87, 1.35]
Levi Setti 2020	722	2304	151	584	28.7%	1.21 [1.04, 1.41]
Pakes 2020	496	2033	188	997	30.1%	1.29 [1.11, 1.50]
Total (95% CI)		**5637**		**3228**	**100.0%**	**1.16 [1.07, 1.26]**
Total events	1663		1009			

Heterogeneity: Chi² = 8.07, df = 6 (P = 0.23); I² = 26%
Test for overall effect: Z = 3.70 (P = 0.0002)



Meta-analysis comparing rates of positive hCG, clinical pregnancy, and live births in cycles with and without a CL. CL, Corpus Luteum; hCG, human chorionic gonadotropin; M-H, Mantel-Haenszel. Credit: *BMJ Open* (2022), https://bmjopen.bmj.com/content/12/4/e051489

Researchers from Melbourne IVF have conducted a literature review and performed a meta-analysis to determine which cycles—with or without natural hormone production—produce higher rates of success, i.e., live birth.

The IVF process involves the creation of multiple embryos during what is called a "stimulated cycle." One embryo is usually placed into a uterus at its conclusion and many women also have excess embryos that are frozen for future use. In cases where pregnancy does not eventuate in the first round, frozen embryos can be used in subsequent months (this is termed a "thaw cycle") without the need for ovarian stimulation and egg collections.

The embryo and endometrial lining must be synchronized in thaw cycles for successful implantation. There are a number of ways this synchronization can be achieved, and they can be divided into two broad groups—those that involve endogenous hormone production and those that do not.

Cycles that rely on external hormones are called "artificial thaw" and those that have natural hormone produced are called "natural" or "stimulated" thaw cycles.

The objective of this research was to draw conclusions, based on

previously published research, as to which cycles—with or without natural hormone production—produce higher rates of success, i.e. live birth.

The author's conclusion is that thaw cycles that include production of hormones from the ovaries results in better pregnancy rates.

Therefore, the author's recommendation is to prioritize "natural" and "stimulated" thaw cycles in favor of "artificial" cycles whenever possible.

More information: Joscelyn Gan, Genia Rozen, Alex Polyakov, Treatment outcomes of blastocysts thaw cycles, comparing the presence and absence of a corpus luteum: a systematic review and meta-analysis, *BMJ Open* (2022), DOI: 10.1136/bmjopen-2021-051489. bmjopen.bmj.com/content/12/4/e051489

Provided by BMJ Open