

Assisted reproduction technology in Australia and New Zealand 2006

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Assisted reproduction technology in Australia and New Zealand 2006

Yueping Alex Wang
Rishan Dean
i Badgery-Clarke
Liaeth Aull, an

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Australian Institute of Health and Welfare //

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Australian Institute of Health and Welfare

Board Chair

Hon. Peter Collins, AM, MLC

Director

Penny Allbon

Any enquiries about or comments on this publication should be directed to

Yueping Ale Wang

Australian Institute of Health and Welfare National Perinatal Statistics Unit

Level 3, McNevin Quadrant Building

Phone (02) 9595 1111

Westmead Hospital Campus

Fax (02) 9595 1111

Westmead NSW 2145

mail npsu@unsw.edu.au

AUSTALIA

Website <www.npsu.unsw.edu.au>

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Next Generation Fertility, Parramatta (Dr David Knight)

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Central Coast (Dr Robert Woolcott)

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Coffs Harbour (Prof. Robert Jansen)

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Liverpool (Dr Derek Lok)

Maitland (Dr Robert Woolcott)

Newcastle (Dr Robert Woolcott)

Northwest (Dr Mark Bowman)

Orange (Prof. Robert Jansen)

Port Macquarie (Dr Robert Woolcott)

Royal Prince Alfred Hospital, Camperdown (Dr Mark Bowman)

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Westmead Fertility Centre, Westmead (Dr Howard Smith)

Northern Territory

REPROD Darwin, Tiwi (Dr Richard Henshaw)

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Abbreviations and symbols

AIHW	Australian Institute of Health and Welfare
ANZARD	Australian and New Zealand Assisted Reproduction Database
ART	assisted reproduction technology
DET	double-embryo transfer
DI	donor sperm insemination or artificial insemination with donated sperm
ET	embryo transfer
FSH	follicle-stimulating hormone
g	grams
GIFT	gamete intrafallopian transfer
ICSI	intracytoplasmic sperm injection
IVF	in-vitro fertilisation
NPSU	National Perinatal Statistics Unit
OHSS	ovarian hyperstimulation syndrome
OPU	oocyte pick-up
PGD	preimplantation genetic diagnosis
SET	single-embryo transfer
UNSW	The University of New South Wales
..	not applicable

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Assisted reproduction technology in Australia and New Zealand 2006 is the twelfth annual report on the use of assisted reproduction technology treatment in Australia and New Zealand. This report provides information on fertility treatment undertaken in 2006, and its pregnancy and birth outcomes.

There were 53,543 treatment cycles reported in Australia and New Zealand in 2006, a 13.7% increase on 2005. Of these cycles in 2006, 90.8% were from Australian fertility centres and 9.2% from New Zealand centres.

Of the treatment cycles in 2006, 22.6% (12,086) resulted in a clinical pregnancy, and 17.3% (9,277) resulted in a live delivery. There were 10,522 babies born to women who had fertility treatment in 2006. This was a 5% increase on 2005.

The average age of women who had fertility treatment in 2006 was 35.6 years, slightly older than the average age (35.2 years) in 2002. The proportion of women aged older than 40 years has increased from 14.3% in 2002 to 16.1% in 2006.

The transfer of blastocysts has increased since 2002. The proportion of blastocyst transfer cycles accounted for 27.1% of all embryo transfer cycles in 2006. This was markedly higher than the 13.9% of all embryo transfers seen in 2002.

Since the Australian and New Zealand Assisted Reproduction Database was established in 2002, there has been a continuous increase in the number of cycles where women received single-embryo transfers. Single-embryo transfer cycles accounted for 56.9% of embryos transfer cycles in 2006, compared with 48.3% in 2005, 40.7% in 2004, 32.0% in 2003 and 28.4% in 2002. The increase in single-embryo transfer cycles resulted in more singleton deliveries. In 2006, the proportion of singleton deliveries following embryo transfer cycles was 88.0% and, consequently, the proportion of twin deliveries was 11.7%, the lowest proportion ever reported.

1 Introduction

Fertility is defined as the ability of an individual to conceive and bear offspring. Infertility is the state of diminished or impaired capacity to do so. Infertility is not an absolute or irreversible condition, but rather a clinical continuum (Carr et al. 2005). To overcome this health condition, assisted reproduction technology (ART) including in-vitro fertilisation (IVF) was introduced. In 1978, the world's first IVF baby, Louise Joy Brown, was born in Great Britain (Steptoe & Edwards 1978).

The first IVF treatment in Australia took place in 1979. This was followed in 1980 by the birth

urpose o this report

The main purpose of *Assisted reproduction technolog in Australia and New Zealand 2006* is to provide:

- information on ART treatment cycles and the resulting pregnancy outcomes in Australia and New Zealand
- evidence of quality improvement through monitoring ART treatment practices, success rates and perinatal outcomes
- information to inform standards for accreditation and monitoring of ART centres
- information for national and international comparisons.

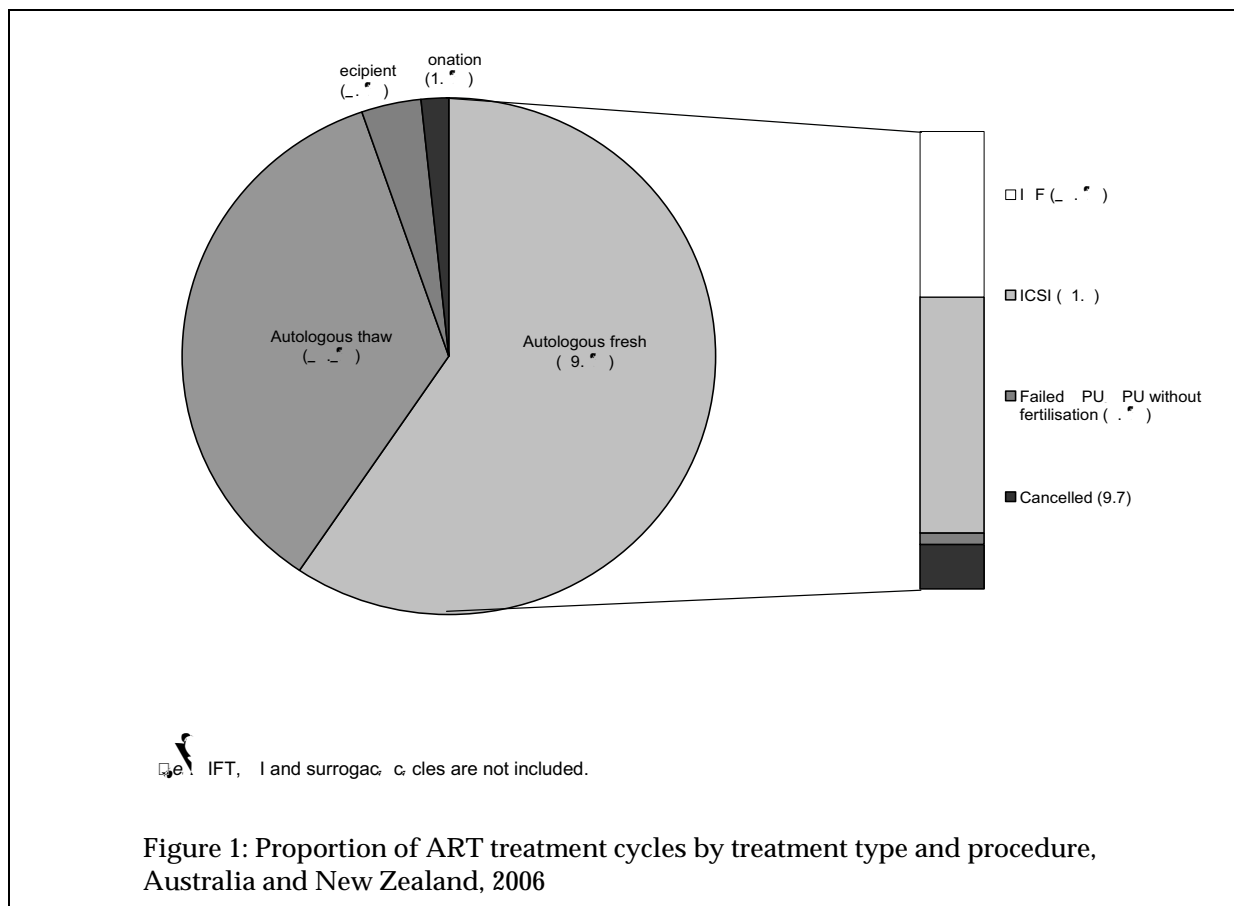
tructure o this report

This report has six chapters. Following this introduction, which briefly describes the data used, Chapter 2 presents data on oocyte pick-up (OPU), IVF, ICSI, embryo transfer, the success of these ART treatments and complications of the ART treatment. Chapter 3 presents data on the outcomes, including pregnancies, deliveries and births, from embryo transfer

2 **A** treatment in 2006

This chapter presents data on OPU, IVF, ICSI, embryo transfer, the success of ART treatment and complications of ART treatment. Because GIFT cycles (including intended GIFT cycles) and surrogacy cycles accounted for less than 0.3% of all treatment cycles, they are separately presented in Chapter 4. DI cycles are presented in Chapter 5.

2.1 **A** treatment overview



Fresh cycles

Fresh cycles include cycles in which OPU was performed, cycles in which OPU was cancelled and cycles in which thawed oocytes were used in fertilisation.

Slightly more than half (51.6%) of all autologous fresh cycles used ICSI procedures (15,417) and 36.2% were IVF procedures (10,816). The remaining 12.2% (3,658) of autologous fresh cycles included cycles in which oocytes were not retrieved, cycles in which oocytes were retrieved but no fertilisation occurred, and cycles in which OPU was cancelled (Table 2). There were 19 cycles in which thawed oocytes were used.

Table 2: Number of fresh cycles by treatment type and procedure, Australia and New Zealand, 2006

Procedure	Autologous		Oocyte recipient	
	Number	Percentage	Number	Percentage
IVF	10,816	36.2%	11	7.1%
ICSI	15,417	51.6%	1	0.7%
Other	3,658 ^(a)	12.2%	7 ^(b)	4.7%
Total	29,891	100.0	19	100.0

(a) Includes cycles in which oocytes were not retrieved, cycles with oocyte retrieval but no fertilisation and cancelled OPU.

(b) Oocyte recipient cycles without fertilisation.

Table 5: Number of embryo transfer cycles by number of embryos transferred per cycle and women's age group, Australia and New Zealand, 2006

Number of embryos	Age group (years) ^(a)						Total
	20-24	25-29	30-34	35-39	40-44	45+	
	Number						
1	1,977	1,919	1,190	711	1,101	1,101	17,111
2	1,101	1,101	1,101	1,101	1,101	1,101	1,101
Total	4,179	4,121	3,481	1,812	2,202	2,202	17,111
	Percentage						
1	77.9	91.1	77.7	44.8	54.5	54.5	77.9
2	22.1	8.9	22.3	55.2	45.5	45.5	22.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Age at time of treatment.

The proportion of single-embryo transfer cycles decreased with women's advancing age. In general, women aged 38 years or older had more embryos transferred per cycle than those aged less than 38 years (Figures 2 and 3).

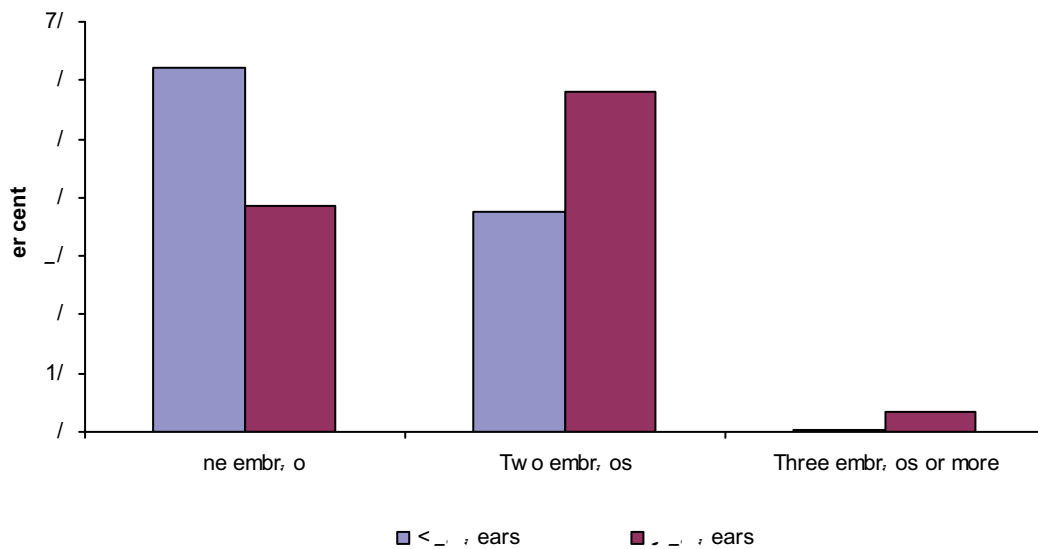
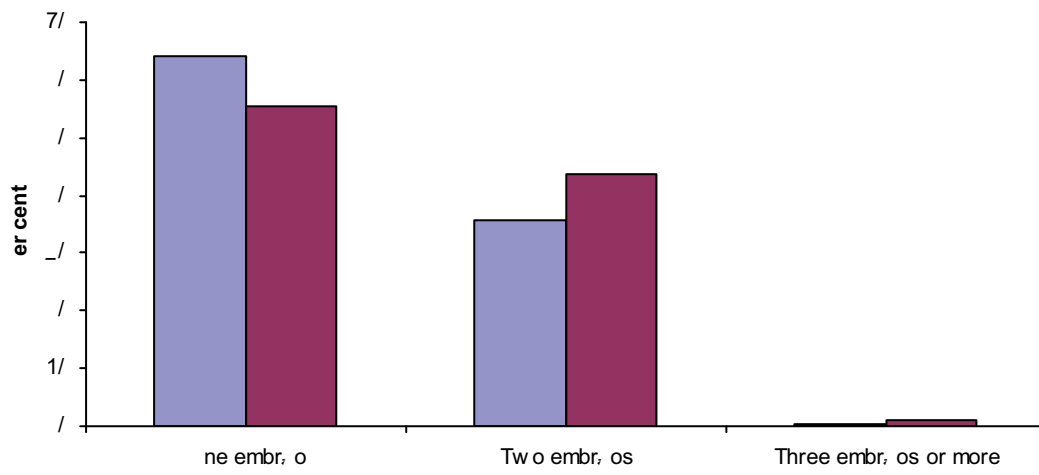


Figure 2: Proportion of fresh embryo transfer cycles by number of embryos transferred per cycle and women's age group, Australia and New Zealand, 2006



Causes of infertility

Causes of infertility are based on clinical diagnosis. However, the diagnostic definitions may vary among fertility centres.

In 2006, 28.7% of autologous and oocyte/embryo recipient cycles had male infertility factor listed as the only cause of infertility; 34.1% of cycles had only female infertility factor(s) reported; 15.2% of cycles had combined male–female infertility factors; and 19.2% of cycles had unexplained infertility. Male infertility factor (alone and combined with female infertility factor) was reported for 43.9% of cycles.

Preimplantation genetic diagnosis (PGD)

In 2006, PGD was performed in 2.0% (874) of all cycles in which embryos were created or thawed. Most PGD cycles (83.9%) were fresh cycles (Table 10). Of all 874 PGD cycles, 72.9% (637) had embryos transferred, 20.8% (182) resulted in a clinical pregnancy and 17.7% (155) resulted in a live delivery (Table 10).

Table 10: Stage/outcome of treatment cycles with preimplantation genetic diagnosis (PGD) by type of embryo, Australia and New Zealand, 2006

Stage/outcome of treatment	Type of treatment		
	Fresh	Thawed	Total
Number of cycles with PGD	700	174	874
Number of cycles with PGD that had embryo transferred	637	100	737
Number of cycles with PGD that resulted in a clinical pregnancy	190	0	190
Number of cycles with PGD that resulted in a live delivery	155	0	155
Number of clinical pregnancies with PGD	182	0	182
Number of live deliveries with PGD	155	0	155

Ovarian hyperstimulation syndrome

ANZARD includes morbidity information that is specifically related to ART treatment.

Ovarian hyperstimulation syndrome (OHSS) is a complication of ovulation induction therapy, which involves the administration of drugs to stimulate follicular development.

OHSS and other morbidity data are reported by patients and clinicians, and validated with hospital records by fertility centre staff. It is possible this information is under-reported as there is no nationally agreed definition for OHSS.

2.2 Autologous ART treatment in 2006

2.2.1 Autologous ART treatment overview

In this report, autologous ART treatment is defined as treatment in which the woman's own oocyte/embryo were used.

Of all 47,643 autologous ART treatment cycles in 2006, 91.6% (43,623) were from fertility centres in Australia and 8.4% (4,020) were from New Zealand centres.

2.2.2 Autologous fresh cycles

In 2006, 25.2% of initiated autologous fresh cycles resulted in a clinical pregnancy and 19.6% resulted in a live delivery. However, 32.1% of embryo transfer cycles had in a clinical pregnancy and 25.0% had a live delivery (Table 13).

live deliveries from autologous fresh cycles by women's age

Women's reproductive age is one of the key factors associated with the outcomes of ART treatment when women use their own oocytes. Figure 5 shows the proportion of initiated cycles that resulted in a live delivery for autologous fresh cycles in 2006 by women's age. Women aged between 21 and 32 years had higher rates. These rates then declined steadily

In 2006, the highest rate of live deliveries per embryo transfer cycle was in women aged 24 years or younger (39.5%), but the rate declined with advancing women's age. For women aged 40–44 years, the chance of having a liveborn baby following an embryo transfer cycle was 9.9% in 2006. This rate declined to 1.1% in women aged 45 years or older (Table 14).

Table 14: Live deliveries from autologous fresh cycles by stage/outcome of treatment and women's age group, Australia and New Zealand, 2006

Stage/outcome of treatment	Age group (years) ^(a)						All ^(b)
	24	25-29	30-34	35-39	40-44	45+	
Initiated cycles	1,071	1,171	1,111	1,111	1,111	1,111	9,911
Embryo transfers	1,071	1,171	1,111	1,111	1,111	1,111	9,911
Clinical pregnancies	1,071	1,171	1,111	1,111	1,111	1,111	9,911
Live deliveries	1,071	1,171	1,111	1,111	1,111	1,111	9,911
Live deliveries from clinical pregnancies	1,071	1,171	1,111	1,111	1,111	1,111	9,911
Live deliveries from embryo transfers	1,071	1,171	1,111	1,111	1,111	1,111	9,911
Live deliveries from initiated cycles	1,071	1,171	1,111	1,111	1,111	1,111	9,911

(a) Age at time of treatment.

(b) Includes cycles in which women's age was not stated.

Clinical pregnancies and live deliveries by procedure

For autologous fresh embryo transfer cycles undertaken in 2006, the rates of clinical pregnancy and live delivery were similar in IVF cycles and ICSI cycles. For IVF embryo transfer cycles, 32.4% resulted in a clinical pregnancy and 25.0% resulted in a live delivery. For ICSI embryo transfer cycles, 31.9% resulted in a clinical pregnancy and 24.9% resulted in a live delivery (Table 15).

Table 15: Clinical pregnancies and live deliveries from autologous fresh embryo transfer cycles by stage/outcome of treatment and procedure, Australia and New Zealand, 2006

Stage/outcome of treatment	IVF	ICSI
Embryo transfers	9,911	1,111
Clinical pregnancies	1,111	1,111
Live deliveries	1,111	1,111
Clinical pregnancies from IVF embryo transfers	1,111	1,111
Live deliveries from IVF embryo transfers	1,111	1,111

4 Clinical pregnancies and live deliveries by stage of embryo development

For autologous fresh embryo transfer cycles undertaken in 2006, the rates of clinical pregnancy and live delivery were higher in blastocyst transfer cycles than in cleavage stage embryo transfer cycles. Of blastocyst transfer cycles, 37.3% resulted in a clinical pregnancy and 28.5% resulted in a live delivery. Of cleavage stage embryo transfer cycles, 30.2% resulted in a clinical pregnancy and 23.7% resulted in a live delivery (Table 16).

Table 16: Clinical pregnancies and live deliveries from autologous fresh embryo transfer cycles by stage/outcome of treatment and stage of embryo development, Australia and New Zealand, 2006

Stage/outcome of treatment	Cleavage stage embryo	Blastocyst
Number of transfers	17,1	1,9
Clinical pregnancies	5,1	7,1
Live deliveries	3,1	5,1
Clinical pregnancy rate	30.2%	37.3%
Live delivery rate	23.7%	28.5%

4 Clinical pregnancies and live deliveries by cause of infertility

Cycles reported with male infertility factor as the only cause of infertility had the highest rates of clinical pregnancy and live delivery. Of these cycles, 21.9% of initiated autologous fresh cycles resulted in a live delivery (Table 17). Those with female infertility factors had comparatively low live delivery rate per initiated cycle (17.2%).

Table 17: Number of autologous fresh cycles that resulted in a live delivery by cause of infertility, Australia and New Zealand, 2006

4 Cause of infertility

In autologous fresh cycles in 2006, the top 25% (first quartile) of fertility centres had live delivery rates between 23.0% and 29.2%. The bottom 25% (fourth quartile) of fertility centres had rates between 2.8% and 15.5%. The remaining 50% of fertility centres had rates between 15.6% and 22.9% (Table 18).

Table 18: Live deliveries from autologous fresh cycles by women's age group and quartiles of live delivery rate, fertility centres, Australia and New Zealand, 2006

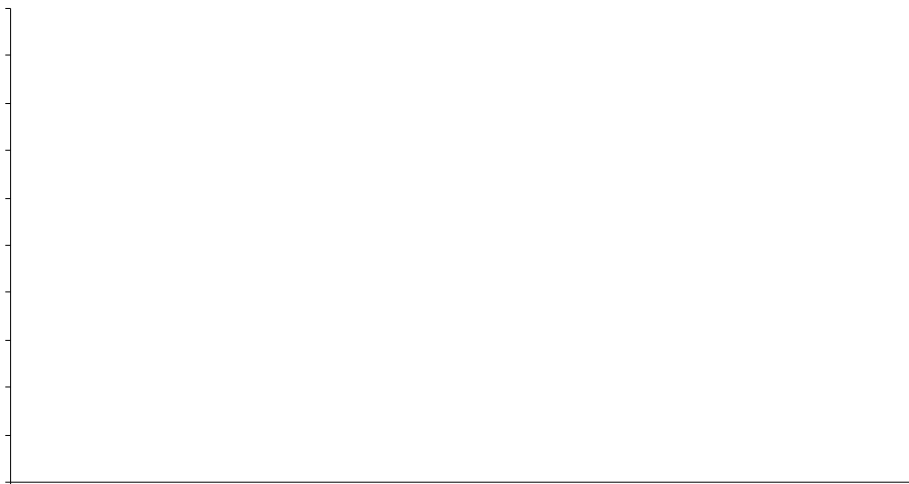
Age group (years) ^(a)	Live deliveries per initiated autologous fresh cycle (%)			
	Mean	First quartile	Second quartile	Third quartile
< 38	25.3	23.0	22.9	29.2
≥ 38	10.2	7.1	11.9	15.5
All ^(b)	19.6	9.0	15.9	22.9

(a) Age at time of treatment.

(b) Includes centres in which women's age was not stated.

The live delivery rate was 19.6% for autologous fresh cycles in all centres in Australia and New Zealand. Women aged less than 38 years had a much higher rate (25.3%) than those aged 38 years or older (10.2%).

Figure 6 shows the average live delivery rate and the 25th and 75th percentiles for autologous fresh cycles with embryos transferred by stage of embryo development in all fertility centres. Single-blastocyst transfers (unadjusted for women's age) achieved the highest crude rate (31.8%) of live deliveries per embryo transferred. Half of the fertility centres that carried out single-blastocyst transfers in 2006 achieved a live delivery rate between 22.3% and 43.8% per single-blastocyst transfer cycle.



2.2. Autologous thaw cycles

Autologous thaw cycles include cycles, with or without a transfer, that involve thawing woman's own cryopreserved (frozen) embryos with the intention of a transfer.

• Clinical pregnancies and live deliveries

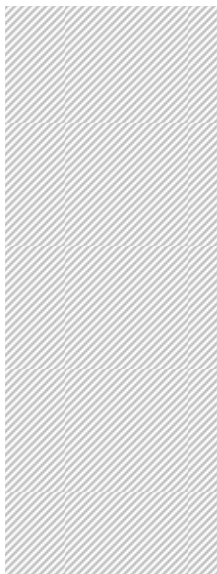
Figure 7 shows:

- the total number of initiated autologous thaw cycles
- the number of cycles in which embryos were transferred.

It also shows the number of initiated autologous thaw cycles that resulted in:

- a clinical pregnancy
- a delivery
- a live delivery.

In 2006, 15.5% of the 17,752 initiated autologous thaw cycles resulted in a live delivery. This is lower than the rate of autologous fresh cycles, in which 19.6% of initiated cycles resulted in a live delivery (Figures 4 and 7).



Live deliveries from autologous thaw cycles by women's age

The live delivery rates per initiated autologous thaw cycle varied by women's age group. Women aged 24 years or younger had the highest live delivery rate (24.0%). Similar to women in autologous fresh cycles, the live delivery rates declined with advancing women's age. For women aged 40 years or older, the live delivery rate was 8.1% per initiated autologous thaw cycle (Table 19 and Figure 8).

Table 19: Live deliveries from autologous thaw cycles by stage/outcome of treatment and women's age group, Australia and New Zealand, 2006

Stage/outcome of treatment	Age group (years) ^(a)						All
	24	25-29	30-34	35-39	40-44	45+	
Initiated cycles	19	1,917	1,917	1,917	1,917	1,917	17,717
Number of transfers	179	1,717	1,717	1,717	1,717	1,717	1,117
Clinical pregnancies	.	.	1,117	1,117	.	.	1,717
Live deliveries	.	1,117	1,117	99	1	19	1,717
Live deliveries from initiated cycles	.	.	.	.	.	.	.
Live deliveries from number of transfers	.	.	.	.	.	.	.
Live deliveries from clinical pregnancies	.	.	.	.	.	.	.

(a) Age at time of treatment.

Figure 8 shows the proportion of initiated cycles that resulted in a live delivery by women's age. As for autologous fresh cycles, the live delivery rates declined steadily after the age of 32 years.

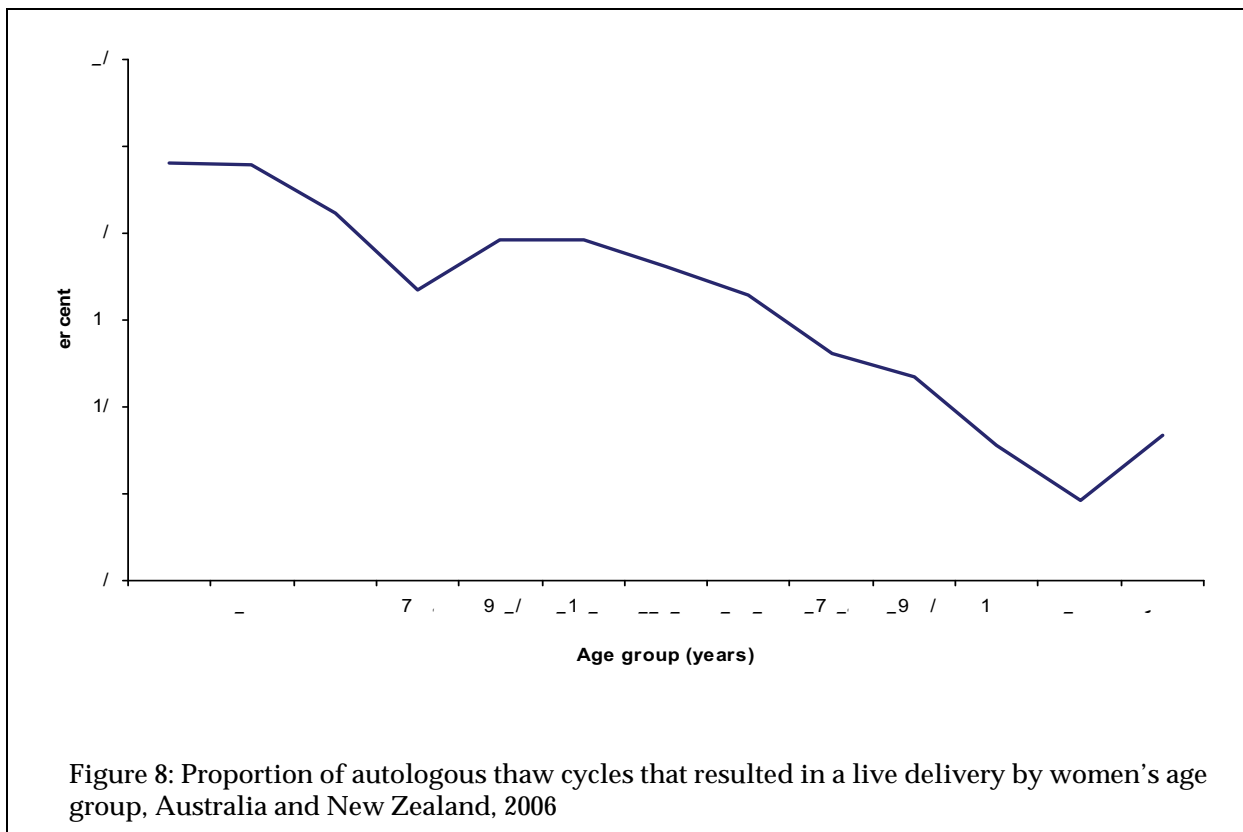


Figure 8: Proportion of autologous thaw cycles that resulted in a live delivery by women's age group, Australia and New Zealand, 2006

Clinical pregnancies and live deliveries by procedure

Amongst autologous thaw cycles where embryos were transferred, both the clinical pregnancy rate per transfer cycle and the live delivery rate per transfer cycle were marginally higher for ICSI cycles (23.2% and 17.7% respectively) than for IVF cycles (22.2% and 16.3% respectively) (Table 20).

Table 20: Clinical pregnancies and live deliveries from autologous thaw cycles with embryo transfer by stage/outcome of treatment and procedure, Australia and New Zealand, 2006

stage/outcome of treatment	Australia	New Zealand	Unknown
Number of transfers	7,7	1,1	1,1
Clinical pregnancies	1,1	1,1	191
Live deliveries	1,1	1,1	1,1
Clinical pregnancy rate per transfer cycle	14.5%	10.0%	17.3%
Live delivery rate per transfer cycle	14.3%	9.1%	16.3%

Clinical pregnancies and live deliveries by stage of embryo development

As for autologous fresh cycles, the rates for clinical pregnancies and live deliveries per autologous thaw embryo transfer cycle were higher for blastocyst transfers than for cleavage stage embryo transfers. A quarter of blastocyst transfer cycles resulted in a clinical pregnancy and 18.6% resulted in a live delivery. Of cleavage stage embryo transfer cycles, 21.8% resulted in a clinical pregnancy and 16.4% resulted in a live delivery (Table 21). However, these rates were markedly lower than the rates in autologous fresh cycles (Table 16).

Table 21: Clinical pregnancies and live deliveries from autologous thaw cycles with embryo transfer by stage/outcome of treatment and stage of embryo development, Australia and New Zealand, 2006

stage/outcome of treatment	Cleavage stage embryo	Blastocyst stage embryo	Cleavage stage embryo
----------------------------	-----------------------	-------------------------	-----------------------

Clinical pregnancies and live deliveries by cause of infertility

Couples who had male infertility factor as the only cause of infertility had a higher live delivery rate (16.8%) per autologous thaw cycle compared with couples who had only female infertility factors (14.2%) (Table 22).

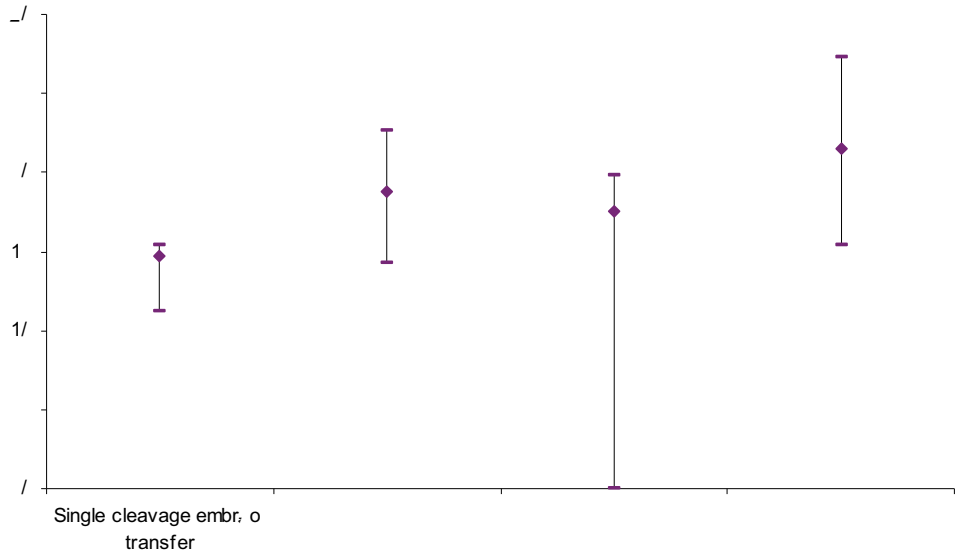
Table 22: Number of autologous thaw cycles that resulted in a live delivery by cause of infertility, Australia and New Zealand, 2006

Cause of infertility	Initiated cycles (number)	Cycles with cryo transfer (per cent)	Cycles that resulted in a clinical pregnancy (per cent)	Cycles that resulted in a live delivery (per cent)
Male factor only	11	91.	11.	18.2
Female factor				
Tubal disease only	1,119	91.7	11.	14.2
Endometriosis only	1,119	91.7	11.	14.2
Other female factor only	1,119	91.	19.	16.7
Combined female factor	1,119	91.9	11.	14.2
Combined male/female factor	1,119	91.	11.	14.2
Unexplained	1,119	91.	11.	14.2
Not stated	1,119	91.	11.	14.2
Total	11,119	91.	20.	14.2

Live deliveries per autologous thaw cycle among fertility centres

In 2006, the live delivery rate per initiated infertility centres was 0.0001 to 0.0009 (range 0.0001 to 0.0246) (Table 23).

Figure 9 shows the average live delivery rate per initiated autologous thaw cycle and 25th and 75th percentiles by stage of embryo development among fertility centres. In autologous thaw cycles, double-blastocyst transfers had the highest live delivery rate, followed by double-cleavage embryo transfers. The average live delivery rate in single-blastocyst transfers was higher (17.6%) than in single-cleavage embryo transfers (14.7%).



2. Donation and recipient cycles in 2006

A donation cycle is a treatment cycle where the patients donate their oocytes, embryos or gametes to others. A recipient cycle is one in which the patients receive donated oocytes, embryos or gametes for their own ART treatment.

Of women who donated or intended to donate their oocytes in 2006, three-quarters were aged between 30 and 39 years. The most successful women in achieving an oocyte donation following initiated cycles were in the age group of 25–29 years, with 95.7% of cycles donating oocytes (Table 24).

Table 24: Stage/outcome of oocyte donation cycles by donor's age group, Australia and New Zealand, 2006

Age group (years) ^(a)	Initiated cycles (number)	Cycles with O per or ed (per cent)	Cycles with oocyte collected (per cent)	Cycles with oocyte donated (per cent)
19	1	97.	97.	9.7
20–24	117	9.9	97.	9.7
25–29	117	95.7	99.	9.9
30–39	91	9.9	9.9	9.9
40–49	1	97.1	99.9	9.9
Total ^(b)	337	6.6	9.9	9.9

(a) Age at time of treatment.

(b) Includes cycles in which donor's age was not stated.

2.2 Oocyte/embryo recipient cycles

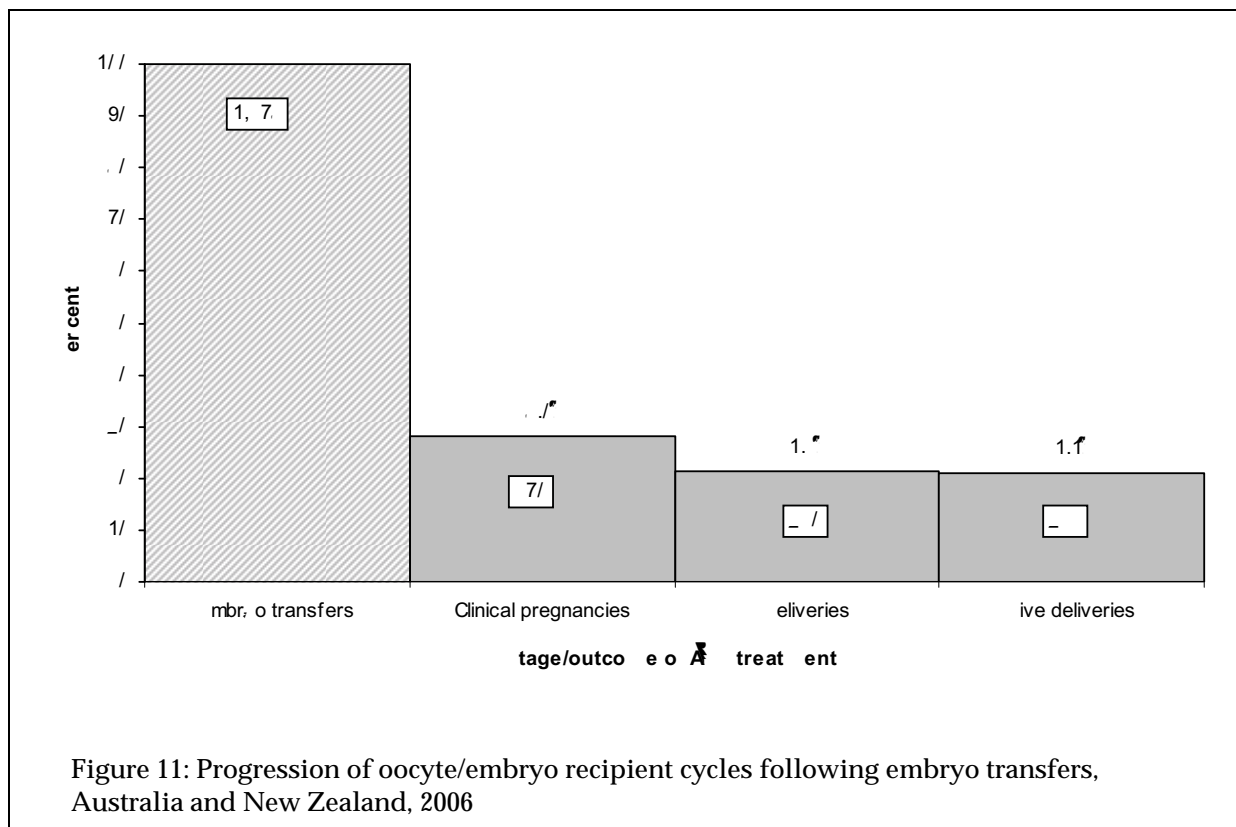
There were 1,827 oocyte/embryo recipient cycles reported in 2006 (Table 1). The average age of women receiving donated oocytes/embryos was 40.7 years in 2006. Of these recipient cycles, 89.8% (1,640) were oocyte recipient cycles and 10.2% (187) were embryo recipient cycles.

3. Clinical pregnancies and live deliveries from oocyte/embryo recipient cycles

Figure 11 shows the number of recipient cycles in which embryos were transferred. It also shows the number of recipient cycles with embryo transfer that resulted in a clinical pregnancy, delivery or a live delivery.

Overall, 21.1% (354 of 1,678) of recipient cycles following embryo transfers resulted in the delivery of a liveborn baby.

Of 1,502 oocyte recipient cycles in which embryos were transferred, 28.4% resulted in a clinical pregnancy and 21.6% resulted in a live delivery. Of 176 embryo recipient cycles in which embryos were transferred, 25.0% resulted in a clinical pregnancy and 16.5% resulted in a live delivery.



Live deliveries from oocyte/embryo recipient cycles by recipient's age

The proportion of recipient cycles with embryo transfers that resulted in a live delivery varied by recipient's age group. In 2006, recipients aged less than 35 years had a lower live delivery rate of 18.4%, compared with 21.6% for recipients aged 35 years or older (Table 25).

Table 25: Live deliveries from oocyte/embryo recipient cycles by stage/outcome of treatment and recipient's age group, Australia and New Zealand, 2006

stage/outcome of treatment	Age group (years) ^(a)					All
	20-34	35-39	40-44	45-49	50+	
embryo transfers	197	9	1			207
Clinical pregnancies	1	11	17	1		30
live deliveries	1	7	117	1		127
live deliveries from clinical pregnancies						

(a) Age at time of treatment.

4 Clinical pregnancies and live deliveries by procedure

The proportion of oocyte/embryo recipient cycles with embryo transfers that resulted in a live delivery was higher in fresh cycles than in thaw cycles (Table 26). IVF cycles had higher live delivery rates (29.1% in fresh cycles and 17.5% in thaw cycles) than ICSI cycles (26.3% and 15.3% respectively).

Table 26: Clinical pregnancies and live deliveries from oocyte/embryo recipient cycles by treatment type and procedure, Australia and New Zealand, 2006

stage/outcome of treatment	fresh		thaw	
	n	%	n	%
embryo transfers	7	-	9	9
Clinical pregnancies	1	1	1	11
live deliveries	1	119	77	7
live deliveries per embryo transfer	.	.	.	.
live deliveries per clinical pregnancy	.	.	.	.

4 Clinical pregnancies and live deliveries by stage of embryo development

Transfer of fresh blastocysts in recipient cycles had a higher live delivery rate of 28.6% per embryo transfer cycle compared with the live delivery rate (26.9%) for transfer of fresh cleavage stage embryos (Table 27). Thaw cycles transferring blastocysts had a markedly higher live delivery rate (21.7%) than thaw cycles transferring cleavage stage embryos (15.2%).

Table 27: Clinical pregnancies and live deliveries from oocyte/embryo recipient cycles by treatment type and stage of embryo, Australia and New Zealand, 2006

stage/outcome of treatment	fresh		thaw	
	cleavage stage embryo	Blastocyst	cleavage stage embryo	Blastocyst
embryo transfers	-	1	9	11
Clinical pregnancies	179	7	17	-
live deliveries	1	-	1	-
live deliveries per embryo transfer	.	.	.	.
live deliveries per clinical pregnancy	.	.	.	.

pregnancies, deliveries and births following embryo transfer cycles in 2006

1.1 Clinical pregnancies and deliveries following embryo transfer cycles in 2006

1.1.1 Clinical pregnancies overview

There were 11,676 embryo transfer cycles in 2006 that resulted in a clinical pregnancy in Australia and New Zealand. Of these cycles, 10,399 (89.1%) were from fertility centres in Australia, and 1,277 (10.9%) were from New Zealand centres.

In 2006, less than one in five (2,302 of 11,676) clinical pregnancies did not reach 20 weeks gestation. Over three-quarters (77.7%; 9,073) of clinical pregnancies had a delivery. There were 301 (2.6%) clinical pregnancies without information on gestational age and birthweight as the women were unable to be followed up or contacted by the fertility centres.

Early pregnancy loss

There were 2,302 early pregnancy losses reported following embryo transfers in 2006. Of these, 89.4% were miscarriages, 7.3% were ectopic or heterotopic pregnancies and 3.3% were due to fetal reduction or termination of pregnancy (Table 28).

Autologous cycles with ICSI had the highest proportion (4.1%) of ectopic/heterotopic pregnancies and the highest proportion (8.7%) of reductions/terminations.

Table 28: Number of embryo transfer cycles that resulted in a clinical pregnancy of < 20 weeks gestation by pregnancy outcome, treatment type and procedure, Australia and New Zealand, 2006

Pregnancy outcome	Autologous		Oocyte/embryo recipient	All
	fresh	fresh / thaw		
	Number			
Miscarriage		717	91	808
reduction or termination		—	1	1
ectopic or heterotopic pregnancy	7	7	7	21
total	7	724	100	2,302
	per cent			
Miscarriage	9.4	7.1	91.0	9.4
reduction or termination	—	0.1	1.0	0.1
ectopic or heterotopic pregnancy	0.1	0.7	7.0	0.9
total	100.0	100.0	100.0	100.0

Deliveries

There were 9,073 deliveries following embryo transfers in 2006. Of these, 98.8% delivered at least one liveborn baby. Fetal deaths accounted for 1.1% of all deliveries in 2006 (Table 29).

The proportion of live deliveries among all deliveries following autologous fresh cycles was similar to the proportion following autologous thaw cycles, but slightly higher than for oocyte/embryo recipient cycles. For oocyte recipient cycles that resulted in a delivery, 98.5% were live deliveries. For embryo recipient cycles that resulted in a delivery, 96.7% were live deliveries.

Table 29: Number of embryo transfer cycles that resulted in a delivery by delivery outcome, treatment type and procedure, Australia and New Zealand, 2006

Delivery outcome	Autologous			Oocyte/embryo recipient	All
	fresh	fresh	thaw		
Live delivery	2,711	2,711	2,711	60	9,073
Fetal death ^(a)	-	-	-	-	11
Not stated	-	-	-	1	9
Total	2,711	2,711	2,711	60	9,073

Table 30: Number of embryo transfer cycles that resulted in a clinical pregnancy by number of fetal hearts and number of embryos transferred, Australia and New Zealand, 2006

Number of fetal hearts	One		two		three or more		total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
0 ^(a)	1	7.7	1	7.7	1	11.1	3	7.7
1	9	77.3	11	88.5	1	11.1	21	77.3
2	1	7.7	1	7.7	1	11.1	3	7.7
3	1	7.7	1	7.7	1	11.1	3	7.7
Not stated	1	7.7	1	7.7	1	11.1	3	7.7
total	13	100.0	13	100.0	9	100.0	35	100.0

(a) No fetal heart detected at the time of ultrasound.

Source

)c 0030 03
The rate of caesarean section deliveries following embryo transfer cycle increased with

2.2 Outcomes of babies conceived through embryo transfer cycles in 2006

Babies in this section were born at 20 weeks or more gestational age or of 400 grams or more birthweight following embryo transfer cycles in 2006.

2.2.1 Baby outcomes

There were 10,182 babies born to women who had embryo transfer cycles in 2006. Of these babies, 88.8% were from fertility centres in Australia and 11.2% from New Zealand centres. Of babies born to women who had embryo transfer cycles in 2006, 78.4% were singletons, 20.9% were twins and 0.7% were higher order multiples. There were 10,038 liveborn babies, representing 98.6% of all babies.

Proportion of preterm births of babies

The average gestational age of babies born to women who had embryo transfer cycles in 2006 was 37.6 weeks (Table 35). This is similar to the average gestational age of babies born to women who had embryo transfer cycles in 2005 (37.5 weeks) (Wang et al. 2007), but less than the average gestational age of 38.8 weeks for all babies born in Australia in 2005 (Laws et al. 2007).

Less than a quarter (21.5%) of babies were preterm (less than 37 weeks gestation), which is markedly higher than the proportion of preterm babies (8.1%) born in Australia in 2005 (Laws et al. 2007). The high proportion of babies born preterm is related to the higher proportion of multiple births among babies born to women who had ART treatment.

The average gestational age of singletons born to women who had embryo transfer cycles in 2006 was 38.4 weeks, for twins it was 34.9 weeks and for higher order multiples, 30.9 weeks. One in ten singletons was born preterm. Multiples had much higher proportions of preterm babies. For twins it was 59.1% and all higher order multiples were preterm (Table 35).

Table 35: Number of babies born to women who had embryo transfer cycles by gestational age and plurality, Australia and New Zealand, 2006

Gestational age (weeks)	Singleton			Twin			Higher order multiple			Total		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage	
< 37	9	1.1		11	7.1		1	19.0		1	1.1	
37-1		1.1		1	7.1		9	1.1				
37-2	79			11/1	7.1			7.1		1,7		

Figure 12 shows the distribution of gestational age for singletons and twins born to women who had embryo transfer cycles in 2006. The proportions of preterm singletons (10.8%) and twins (59.1) born to women who had embryo transfer cycles in 2006 were higher than the proportions of preterm singletons and twins born in Australia in 2005 (6.5% and 53.1% respectively) (Laws et al. 2007).

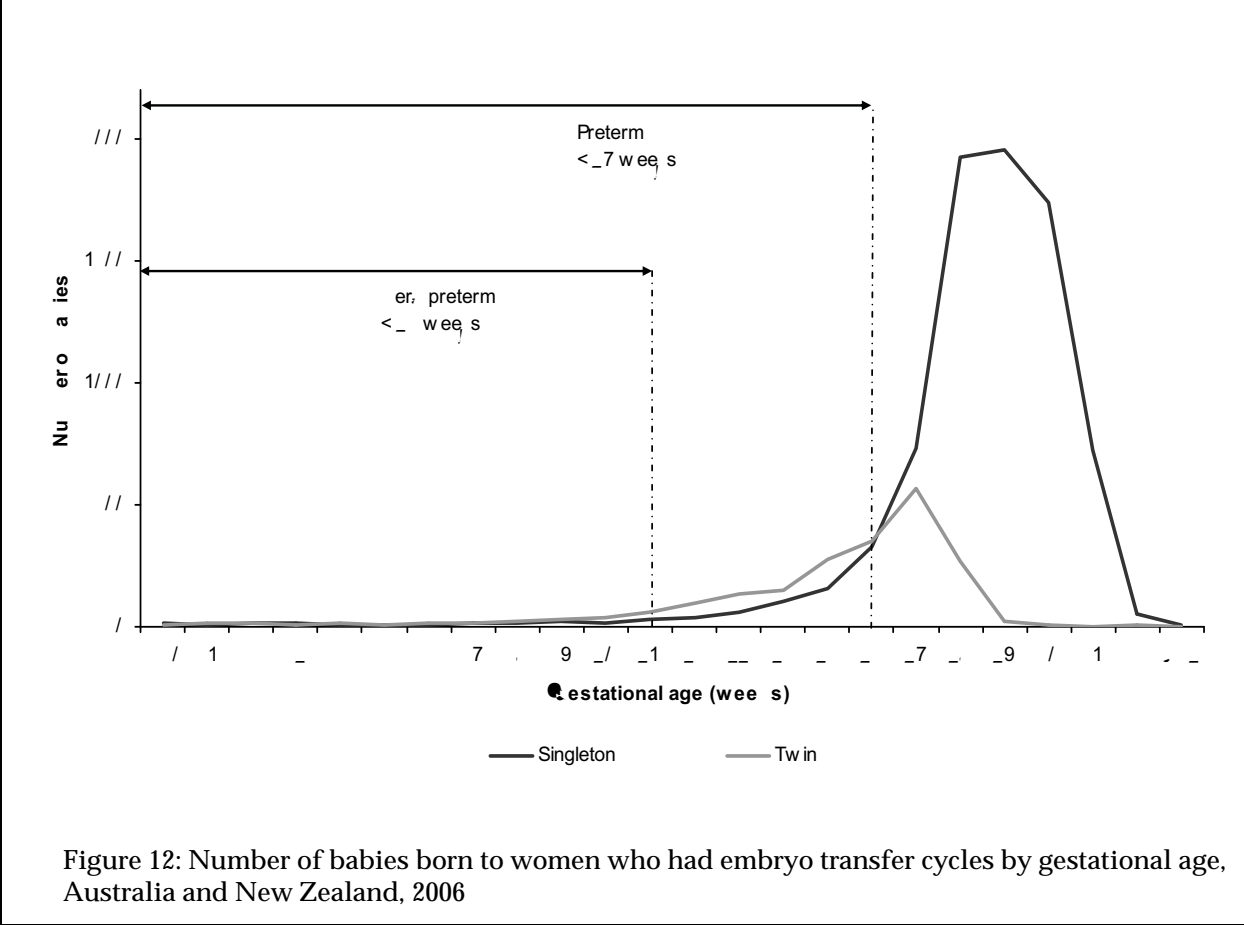
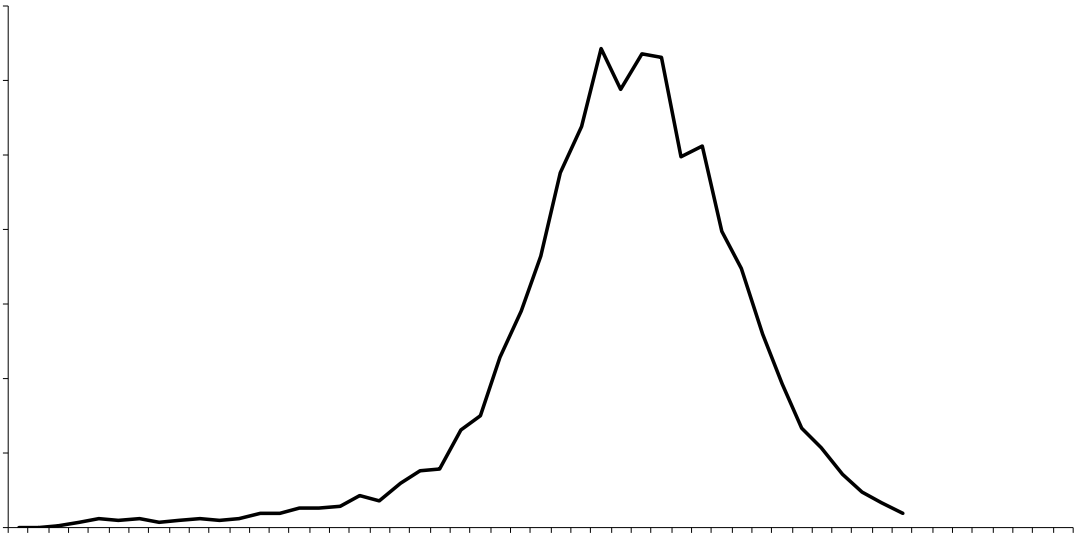


Figure 12: Number of babies born to women who had embryo transfer cycles by gestational age, Australia and New Zealand, 2006

Figure 13 shows the distribution of birthweights for liveborn singletons and twins to women who had embryo transfer cycles in 2006. It also shows the difference in the average birthweights of liveborn singletons and liveborn twins. Singletons had an average birthweight of 3,314 grams, compared with 2,377 grams for twins (average birthweights indicated by vertical lines). Of liveborn singletons, 7.0% were low birthweight (Table 36), which is markedly higher than the proportion of low birthweight singletons (4.8%) born in Australia in 2005 (Laws et al. 2007). Of liveborn twins, 51.8% were low birthweight, which is slightly higher than the proportion of low birthweight twins (49.7%) born in Australia in 2005 (Laws et al. 2007).



Sex distribution in liveborn babies

For liveborn babies to women who had embryo transfer cycles in 2006, there were 103.0 male babies for every 100 female babies. For liveborn babies to women who had autologous fresh IVF embryo transfer cycles in 2006, the ratio was 113.2. For liveborn babies to women who had autologous fresh ICSI embryo transfer cycles, the ratio was 100.5 (Table 37).

Table 37: Number of liveborn babies to women who had embryo transfer cycles by sex, treatment type and procedure, Australia and New Zealand, 2006

Sex	Autologous			Oocyte/embryo recipient	All
	fresh IVF	fresh ICSI	hatched		
	Number				
Male	1,103	1,904	1,011	1,404	1,911
Female	1,103	1,904	1,011	1,404	1,909
Not stated	1	-	1	1	-
Total	2,607	3,808	2,023	2,809	10,000
	Percentage				
Male	103.0	113.2	100.5	103.0	103.0
Female	96.9	86.8	99.5	97.0	96.9
Not stated	0.1	0.0	0.1	0.1	0.0

(a) Number of males to 100 females.

Perinatal mortality in all babies

Perinatal mortality is a measure for fetal deaths (stillbirths) and the deaths of liveborn babies occurring within 28 days of birth (neonatal deaths). There were 178 perinatal deaths in 2006. Of these, 134 were fetal deaths and 44 were neonatal deaths. The perinatal death rate in 2006 was 17.5 deaths per 1,000 births (Table 38). This is lower than the rate of 19.3 deaths per 1,000 births to women who had ART treatment in 2004 (Wang et al. 2006), but higher than the rate of 14.7 deaths per 1,000 births to women who had embryo transfer cycles in 2005 (Wang et al. 2007).

Table 38: Perinatal mortality of babies born to women who had embryo transfer cycles by type of death and plurality, Australia and New Zealand, 2006

Type of death	Singleton	Twin	Higher order multiple	Total
	Number			
Fetal deaths	134	1	-	135
Neonatal deaths	-	1	-	1
Perinatal deaths^(a)	134	2	11	147
	Rate per 1,000 births			
Fetal death rate	13.4	0.1	0.0	13.5
Neonatal death rate	0.0	0.1	0.0	0.1
Perinatal death rate ^(b)	13.4	0.2	0.0	13.6

(a) Perinatal deaths are reported by patients to fertility centre staff. These data are not official vital statistics.

(b) Fetal and perinatal death rates were calculated using all births (live births and fetal deaths) to women who had ART treatment in 2006. Neonatal death rates were calculated using all live births to women who had embryo transfer cycles in 2006.

Table 39: Perinatal outcomes of babies born to women who had single-embryo transfer cycles by plurality, Australia and New Zealand, 2006

Perinatal outcome	Singleton		Multiple		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
gestational age (weeks)						
≥ 37	1,199	99.9	17	77.3	1,216	97.1
< 37	9	1/1	1	7.7	10	1.7
Total	1,208	100.0	21	100.0	1,229	100.0
Birthweight of liveborn babies (grams)						
≥ 3,000	1,199	99.9	17	77.3	1,216	97.1
< 3,000	9	1/1	1	7.7	10	1.7
Not stated	1	1/1	1	7.7	2	1/1
Total	1,209	100.0	22	100.0	1,231	100.0
Perinatal outcome						
Live births survived	1,199	99.9	17	77.3	1,216	97.1
Live births neonatal death	9	1/1	1	7.7	10	1.7
Fetal death	1	1/1	11	52.3	12	1.7
Not stated	1	1/1	1	7.7	2	1/1
Total	1,211	100.0	30	100.0	1,241	100.0
Perinatal mortality rate	1/1,208	0.1	1/21	4.8	2/1,229	0.2

(a) Perinatal deaths are reported by patients to fertility centre staff. These data are not official vital statistics.

(b) Perinatal death rates were calculated using all births (live births and fetal deaths) to women who had embryo transfer cycles in 2006.

Table 40: Perinatal outcomes of babies born to women who had double embryo transfer cycles by plurality, Australia and New Zealand, 2006

Perinatal outcome	Singleton		Multiple		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Gestational age (weeks)						
≥ 37	1,077	100.0	1,117	100.0	2,194	100.0
< 37	17	1.6	199	17.9	216	10.0
Total	1,094	100.0	1,316	100.0	2,410	100.0
Birthweight of liveborn babies (grams)						
≥ 3,000	1,071	97.0	1,291	97.0	2,362	97.0
< 3,000	17	1.6	199	15.0	216	9.0
Not stated	1	0.1	1	0.1	2	0.1
Total	1,089	100.0	1,391	100.0	2,480	100.0
Labour outcome						
Live birth - survived	1,091	99.0	1,309	93.0	2,400	97.0
Live birth - neonatal death	1	0.1	1	0.1	2	0.1
Fetal death	1	0.1	1	0.1	2	0.1
Not stated	1	0.1	1	0.1	2	0.1
Total	1,095	100.0	1,312	100.0	2,407	100.0
Elective abortion	1	0.1	1	0.1	2	0.1

4 **and surrogacy cycles in 2006**

4.1 **cycles**

The use of gamete intrafallopian transfer (GIFT) as part of ART treatment provided in Australia and New Zealand has been declining in recent years. In 2006, there were 149 GIFT cycles or intended GIFT cycles reported to ANZARD. Of these cycles, 123 (82.6%) had oocytes transferred. Of the 123 GIFT cycles, 17.9% (22) resulted in a clinical pregnancy and 13.0% (16) resulted in a live delivery. One in four deliveries following GIFT cycles were multiple deliveries.

All 21 babies born to women who had GIFT cycles in 2006 were liveborn. Of these, 38.1% (8) were born preterm and 28.6% (6) were low birthweight.

4.2 **urrogacy cycles**

There were 97 surrogacy cycles reported to ANZARD in 2006. Sixty-three were surrogacy carrier cycles. Among surrogacy carrier cycles, 22 (34.9%) resulted in a clinical pregnancy and 20 (31.7%) resulted in a live delivery. All 17 singletons and 6 twins born to surrogacy carriers in 2006 were liveborn.

Donor sperm insemination (DI) cycles in 2006

1.1 DI cycles performed in 2006

The information presented here does not include DI cycles undertaken in hospitals or private clinics that are not fertility centres. Only DI cycles undertaken in fertility centres in Australia and New Zealand are included in this section.

In 2006, there were 3,022 DI cycles reported to ANZARD, which included 15.6% (471) FSH-stimulated cycles and 84.4% (2,551) unstimulated cycles. Of all DI cycles in 2006, 12.1% resulted in a clinical pregnancy and 9.2% resulted in a live delivery (Table 41). The average age of women who had a DI cycle in 2006 was 35.0 years.

1.1.1 Clinical pregnancies and live deliveries from DI cycles by women's age

Two-thirds (66.5%) of DI cycles in 2006 were in women aged between 30 and 39 years. Women in the 30–34 years age group had the highest live delivery rate per DI cycle (13.6%). Two of the 52 DI cycles in women aged 45 years or older resulted in a clinical pregnancy, but neither resulted in a live delivery (Table 41).

Table 41: Clinical pregnancies and live deliveries from DI cycles by stage/outcome of treatment and women's age group, Australia and New Zealand, 2006

Stage/outcome of treatment	Age group (years) ^(a)					Total
	20-29	30-34	35-39	40-44	45+	
Clinical pregnancies	1,022	1,251	1,149	52	2	3,576
Live deliveries	1,022	1,251	1,149	52	2	3,576

.2 DI cycles resulting in clinical pregnancies in 2006

In 2006, 366 DI cycles resulted in a clinical pregnancy, of which 0.5% were ectopic/heterotopic pregnancies and 1.4% were terminations/reductions. More than three-quarters of clinical pregnancies (280 of 366) resulted in a delivery. Most deliveries (278 of 280) were live deliveries. Multiple gestation deliveries accounted for 5.7% (16 of 280) of all deliveries.

. Babies conceived through DI treatment in 2006

There were 296 babies born to women who had DI treatment in 2006. Of these babies, 10.8% (32) were born preterm, which is higher than the proportion of preterm babies (8.1%) born in Australia in 2005 (Laws et al. 2007). The mean birthweight of liveborn babies following DI treatment was 3,306 grams, with 23 babies (7.8%) born with low birthweight, which is higher than the proportion of low birthweight babies (6.4%) born in Australia in 2005 (Laws et al. 2007). The perinatal death rate was 6.8 per 1,000 births to women who had DI treatment in 2006.

6 Trends in ART treatment and outcomes

6.1 Trends in ART treatment 2002 to 2006

This chapter includes autologous cycles, donation and recipient cycles, GIFT cycles, surrogacy cycles and unclassified cycles from 2002 to 2006.

6.1 Trends in ART treatment 2002 to 2006

Overview of ART treatment

In 2006, 50,521 initiated ART treatment cycles (including all autologous, donation and recipient cycles, GIFT cycles, surrogacy cycles and unclassified cycles) were reported to ANZARD in Australia and New Zealand. This is an increase of 6.0% of ART treatment cycles from 2005 and an increase of 47.4% of ART treatment cycles from 2002 (Table 42).

In 2006, 11,720 ART treatment cycles resulted in a clinical pregnancy. This is 11.7% more than the number of clinical pregnancies following ART treatment in 2005 and 61.0% more than the number of clinical pregnancies following ART treatment in 2002. In 2006, the rates of clinical pregnancies and live deliveries per initiated cycle were marginally higher than in previous years (Table 42).

Table 42: Live deliveries from ART treatment, Australia and New Zealand, 2002 to 2006

Stage/outcome of treatment	2002	2005	2006	2005	2006
Cycles started ^(a)	43,700	46,000	49,900	106%	114%
Successful embryo transfers	11,100	11,100	11,100	100%	100%
Clinical pregnancies	7,790	7,977	11,720	102%	147%
Live deliveries	5,100	5,100	5,790	100%	114%
Clinical pregnancies per cycle	0.18%	0.17%	0.23%	100%	128%
Live deliveries per cycle	0.12%	0.11%	0.12%	100%	109%

(a) Includes all ART treatment (autologous cycles, oocyte donation and recipient cycles, IFT cycles, surrogacy cycles and unclassified cycles).

Types of treatment and procedure

The proportional contribution of IVF and ICSI to all ART procedures were similar between 2002 and 2006. The use of GIFT declined from 0.7% of all fresh cycles in 2002 to 0.3% in 2006 (Table 43).

Table 43: Number of ART treatment cycles with oocyte/embryo transfer by treatment type and procedure, Australia and New Zealand, 2002 to 2006

Treatment type/procedure	2002			200			200 ⁴			200			2006		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage	
Fresh															
IVF	1,7	1.1		7,1	1.1		11,1	1.1		9,1	1.1		9,1	1.1	
ICSI	9,1	1.1		11,1	1.1		11,1	1.1		11,1	1.1		11,1	1.1	
GIFT	19	1.7		1	1.1		1	1.1		1	1.1		1	1.1	
Thaw															
IVF	1,1	1.1		1,1	1.1		1,1	1.1		1,1	1.1		1,1	1.1	
ICSI	1,1	1.9		1,1	1.1		1,1	1.1		1,1	1.9		1,1	1.7	
Not stated	7	1.1		1	1.7		17	1.1		1	1.1		1	1.9	
Unclassified	1	1.1		1	1.1		1	1.1		1	1.1		1	1.1	
total	2,06	100.0		6,1	100.0		12,2	100.0		12,1	100.0		11,1	100.0	

Women's age

Most ART treatment cycles in each year were in women aged between 30 and 40 years. The proportion of cycles in women older than 40 years increased from 14.3% in 2002 to 16.2% in 2006. The mean women's age in 2006 (35.6 years) was 0.4 years older than in 2002 (35.2 years) (Table 44).

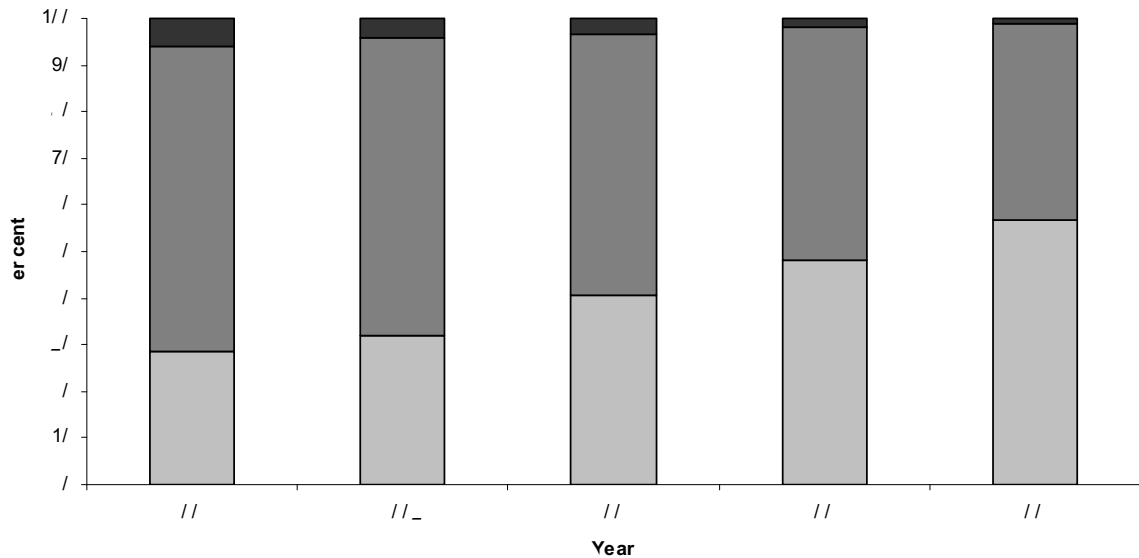
Table 44: Number of ART treatment cycles by women's age group, Australia and New Zealand, 2002 to 2006

Age group (years) ^(a)	2002			200			200 ⁴			200			2006		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage	
15-19	1	1.1		7	1.1		1	1.1		1	1.1		7	1.1	
20-24	1,79	11.1		1,1	11.1		1,9	11.1		1,7	9.9		1,9	11.1	
25-29	11,97	1.9		11,91	1.1		11,1	1.1		11,1	1.1		11,1	9.1	
30-34	7,1	1.7		7,7	1.1		9,9	1.7		11,1	9.1		11,7	1.1	
35-39	1,1	19.1		1,77	1.1		7,77	1.1		9,1	1.9		9,7	19.1	
40-44	1,77	1.1		1,1	1.1		1,7	1.1		1,9	1.1		1,17	1.9	
45-49	1,1	1.1		1,1	1.1		1,1	1.1		1,9	1.7		1,1	1.1	
50-54	7	1.1		7,9	1.1		999	1.1		1,1	1.1		1,1	1.1	
Other not stated	1	1.9		9	1.1		1	1.1		1	1.1		1	1.1	
total	12,26	100.0		6,66	100.0		11,0	100.0		12,661	100.0		10,21	100.0	

(a) Age at time of treatment.

Number of embryos transferred per transfer cycle

Most embryo transfer cycles over the period 2002 to 2006 had one or two embryos transferred (Figure 14). There has been a significant decline in the number of cycles in which three or more embryos were transferred, from 6.0% in 2002 to 1.0% in 2006 ($p < 0.01$). There has been a highly significant shift in recent years to the transfer of one embryo per cycle. The proportion of single-embryo transfer cycles increased from 28.4% in 2002 to 56.9% in 2006 ($p < 0.01$) in Australia and New Zealand.



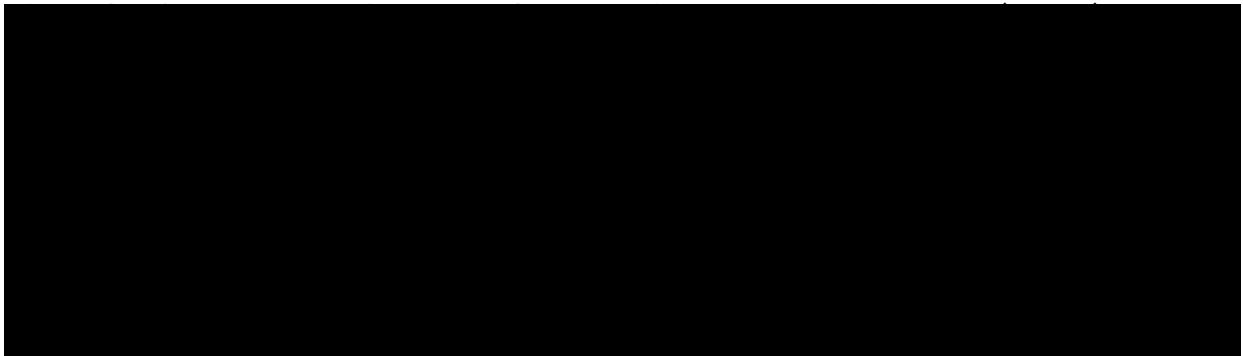
□ One embryo

■ Two embryos

■ Three or more embryos

• Clinical pregnancies and live deliveries per embryo transfer cycles

The rate of clinical pregnancy per transfer of single fresh embryo in 2006 was 32.8%, which is 1.4 times the rate in 2002 (23.4%, $p < 0.01$). The rate of clinical pregnancy per transfer of single



6.2 Trends in the outcomes of ART treatment 1997 to 2006

Clinical pregnancies and live deliveries

Between 1997 and 2006, there was a steady increase in the numbers of clinical pregnancies and live deliveries resulting from ART treatment in Australia and New Zealand (Figure 15). This increase results partly from the increase in the number of ART treatment cycles provided by fertility centres in Australia and New Zealand. In 2006, there were 8,999 live deliveries, 3.1 times the 2,932 live deliveries in 1997. This significant increase represents a growth of 837 clinical pregnancies per year and 659 live deliveries per year ($p < 0.01$) between 1997 and 2006 in Australia and New Zealand.

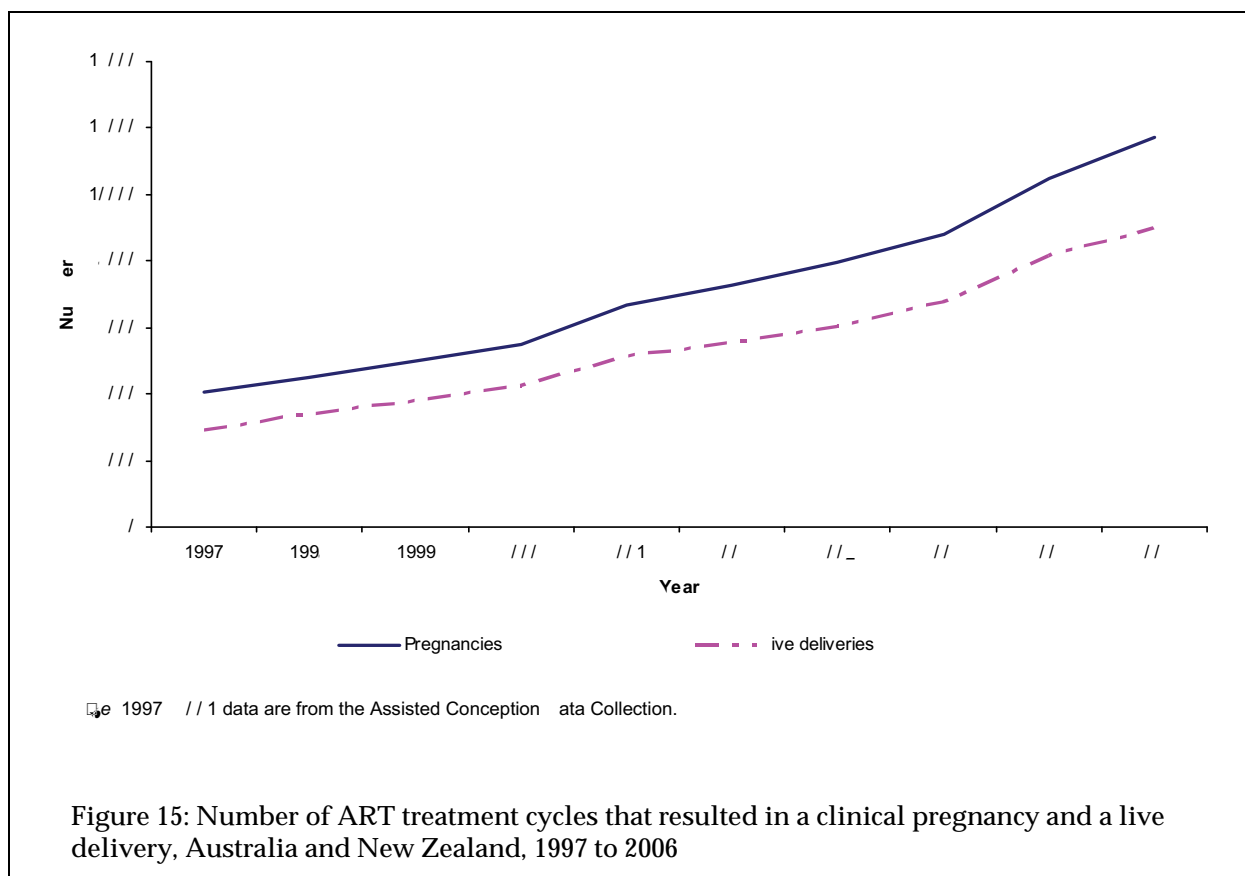


Figure 15: Number of ART treatment cycles that resulted in a clinical pregnancy and a live delivery, Australia and New Zealand, 1997 to 2006

Multiple gestation deliveries

Between 1997 and 2006, there was a decrease in the number of triplet or higher order multiple gestation deliveries that resulted from ART treatment. In 1997, 1.6% of deliveries were triplets or higher order multiples, compared with 0.3% in 2006. Of all deliveries, the proportion of singleton deliveries significantly increased from 79.4% in 1997 to 88.0% in 2006 ($p < 0.01$). The proportion of twin deliveries in 2006 was 11.7%, the lowest since ANZARD was established in 2002 (Table 47).

Table 47: Number of ART treatment cycles that resulted in a delivery by plurality, Australia and New Zealand, 1997 to 2006

Year	Singleton		Twin		Triplet or higher order multiple		Total
	Number	Percentage	Number	Percentage	Number	Percentage	

Appendix 1 Data used in this report

The data presented in this report are supplied by fertility centres in Australia and New

Data limitations

Follow-up of information on pregnancy and on birth outcomes is limited because the ongoing care of pregnant patients is often carried out by non-ART practitioners. The method of follow-up varies by fertility centre and includes follow-up with the patient or clinician or use of routine data sourced from a health department. In a small proportion of cases this information is not available. For pregnancies in which there is successful follow-up, data are limited by the self-reported nature of the information. These data include pregnancy complications, complications of fertility treatment and infant morbidity. Fertility centre staff invest significant effort in validating such information by obtaining medical records from clinicians or hospitals. Data about previous ART treatment and history of pregnancies are, in some cases, reported by patients.

Appendix 2 ANZA Data items

Variable	Description
Unit identifier	3 digit code for clinics provided by NPSU
Site of main treatment	For centres with multiple sites, this identifies location of most significant part of the treatment.
Unit patient ID medical record number	Unit ID for patient.
Woman's date of birth	day, month, year.
Husband/male partner's date of birth	day, month, year.
oocyte donor's age	Completed, years at time of donation.
Previous Medicare item 1_ / / s	The number of billed Australian Medicare item 1_ / / . New Zealand units leave this field blank.
Cause of infertility - tubal disease	Yes in the opinion of the treating clinician or clinic there is significant tubal disease present. No other.
Cause of infertility - endometriosis	Yes in the opinion of the treating clinician or clinic there is significant endometriosis contributing to this couple's subfertility. No other.
Cause of infertility - male factor	Yes in the opinion of the treating clinician or clinic there is a significant male factor problem. No other.
Cause of infertility - other factors	Yes in the opinion of the treating clinician or clinic there is subfertility due to any other factors apart from female age, tubal disease, male factor or endometriosis. Possible examples are fibroids, ovulation disorders or premature ovarian failure. There is no clinical subfertility (e.g. egg donor, preimplantation genetic diagnosis or other non fertility reason for ART). No other.
Cause of infertility - idiopathic	Yes in the opinion of the treating clinician or clinic there is clinical subfertility without any apparent explanation. No other, including case of ART for genetic disease.
Previous pregnancies < / weeks	Number of known pregnancies less than / weeks in the female partner regardless of whether by ART or by a different partner.
Previous pregnancies ≥ / weeks	Number of known pregnancies reaching / weeks or more in the female partner regardless of whether by ART or by a different partner.
Centre ID	Unit centre identifier.
Centre date	For treatment centres this is according to the Medicare definition and is the date of MP for unstimulated centres or, where FSH is used, the first date of FSH administration. For centres where the only process is movement or disposal of oocytes, this is the date of oocyte movement. This date defines the year in which a centre is reported to NPSU.
Surrogate	Yes the procedure is part of a surrogate arrangement. No the procedure is not part of a surrogate arrangement.
Injectable FSH stimulation given	Yes FSH administered. Does not include clomiphene or hCG alone unless FSH was also given. No other.
ICSI date	date of first insemination with donor sperm.
ICSI date	date of oocyte retrieval.
Number of eggs retrieved	Number of eggs retrieved at ICSI. Include any immature oocytes that are identified.
Number of eggs donated	Number of eggs donated to someone else.
Number of eggs received	Number of eggs received from someone else.

Va ab

Number of eggs IFT

Number of eggs I F

Da a d a

Number of eggs replaced in a IFT procedure.

Va ab

Da a

Terminology used in this report

This report categorises ART treatments according to whether the patient used her own oocytes or embryos, or oocytes/embryos donated by another woman/couple, and whether the embryos were transferred soon after fertilisation or following cryopreservation.

Autologous cycle: an ART treatment cycle in which patients intend to use their own oocytes/gametes.

Cancelled cycle: a cycle which is started and no further procedures undertaken.

Clinical pregnancy: a pregnancy in which at least one of the following criteria is met:

- known to be ongoing at 20 weeks
- evidence by ultrasound of an intrauterine sac (with or without a fetal heart)
- examination of products of conception reveal chorionic villi, or
- an ectopic pregnancy has been diagnosed by laparoscope or by ultrasound.

Delivery: a birth event in which one or more babies of 20 weeks or more of gestation or of 400 grams or more in birthweight are born.

DI cycle: an artificial insemination cycle in which donated sperm is used in the procedure.

Donation cycle: an ART treatment cycle in which a woman intends to donate or donates her oocyte/embryo.

Ectopic pregnancy: a pregnancy in which implantation takes place outside the uterine cavity.

Embryo: an egg that has been fertilised by a sperm and has undergone one or more divisions.

ET: an embryo transfer cycle in which embryo(s) are placed in the uterus or fallopian tube. The embryo(s) can be fresh or thawed following cryopreservation. Embryo transfer includes transfer of cleavage stage embryos (2 to 3 days after fertilisation) or transfer of blastocysts (5 to 6 days after fertilisation).

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- GIFT cycles:
(pregnancy end date - OPU date) + 14 days
- DI cycles:
(pregnancy end date - date of insemination) + 14 days.

GIFT cycle: an ART treatment cycle in which a GIFT procedure is used. Cycles using both

The International Committee for the Monitoring of Assisted Reproductive Technologies (ICMART) has published an ART glossary for the terms used in ART data collections (Zegers-Hochschild et al. 2006). However, the terminology used in this report may differ from that in the ICMART glossary.

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