

Assisted reproductive technology in Australia and New Zealand 2024



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Assisted reproductive technology in Australia and New Zealand 2024

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UNSW Sydney

The National Perinatal Epidemiology and Statistics Unit (NPESU) aims to provide national information and statistics in reproductive and perinatal health.

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Contents

Acknowledgments.....	iv
Abbreviations	v
Symbols	vi
Terminology.....	vii
Summary	viii
1 Introduction	1
2 Overview of ART treatment in 2024.....	4
3 Autologous and donation/recipient cycles in 2024	6
3.1 Overview of autologous and recipient cycles	7
3.2 Autologous fresh cycles	16
3.3 Autologous thaw cycles.....	22
3.4 Donation and recipient cycles	29
4 Pregnancy and birth outcomes following autologous and recipient embryo transfer cycles in 2024.....	34
4.1 Clinical pregnancies	34
4.2 Births	36
4.3 Perinatal outcomes of babies	39
5 Other cycle types, procedures and treatment complications in 2024	43
5.1 Surrogacy arrangements.....	43
5.2 Fertility preservation	44
5.3 Preimplantation genetic testing	44
5.4 Assisted hatching	47
6 Donor sperm insemination cycles in 2024	48
7 Trends in ART treatment and outcomes: 2020–2024	49
8 Women undertaking autologous treatment in 2024	57
9 Cycle-specific and cumulative live birth rates: 2021–2024.....	60
Appendix A: Contributing ART Units	70
Appendix B: Data used in this report	74
Appendix C: ANZARD 3.0 data items	76
Glossary	81
References	85
List of Figures.....	86
List of Tables	87

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All assisted reproductive technology (ART) and donor insemination (DI) cycles undertaken in Australian and New Zealand ART Units must be reported to the ANZARD as part of their accreditation by the Reproductive Technology Accreditation Committee of the FSANZ.

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Abbreviations

ANZARD	Australian and New Zealand Assisted Reproduction Database
ART	assisted reproductive technology
DET	double embryo transfer
DI	donor (sperm) insemination
FSANZ	Fertility Society of Australia and New Zealand
FSH	follicle stimulating hormone
GIFT	gamete intrafallopian transfer
hCG	human chorionic gonadotropin
ICSI	intracytoplasmic sperm injection
IVF	in vitro fertilisation
IUI	intrauterine insemination
LMP	last menstrual period
NPESU	National Perinatal Epidemiology and Statistics Unit
OHSS	ovarian hyperstimulation syndrome
OPU	oocyte pick-up
PCOS	polycystic ovary syndrome
PESA	percutaneous epididymal sperm aspiration
PGT	preimplantation genetic testing
RTAC	Reproductive Technology Accreditation Committee
SET	single embryo transfer
SLK	statistical linkage key
UNSW	University of New South Wales
WHO	World Health Organization

Symbols

..	not applicable
%	percentage
n	number

Terminology

Key terms used in this report

In this report, the terms '**woman**', '**women**', or '**female patient**', and '**male**', refer to individuals recorded in ANZARD as 'female' and 'male' respectively, which is based on sex at birth. Information on gender is not recorded in ANZARD.

It is acknowledged that this report may include individuals who do not identify as women or men and that individual patients and families may use different words to those used in this report. This may include women, transgender men, transgender women, intersex people, non-binary and gender diverse people.

An **autologous cycle** is defined as an ART treatment cycle in which a female intended parent intends to use or uses her own oocytes or embryos to achieve a pregnancy.

A **donation cycle** is defined as an ART treatment cycle in which a female patient who is not an intended parent, intends to donate or donates her oocytes/embryos to others or where a female intended parent provides oocytes/embryos to a female partner who is also an intended parent.

A **recipient cycle** is defined as an ART treatment cycle in which a female patient who is an intended parent, receives oocytes or embryos from another individual/couple who is not an intended parent, or where a female intended parent receives oocytes or embryos from a female partner who is also an intended parent, to achieve a pregnancy.

The use of donor sperm does not determine whether a cycle is an autologous, donation, or recipient cycle.

Autologous and donor/recipient cycles can involve the use of, or intended use of, either fresh or frozen/thawed oocytes or embryos.

A **fresh cycle** is an ART treatment cycle in which:

- i) oocyte retrieval is intended and oocytes and/or embryos are used, or intend to be used, for fresh embryo transfer or freezing or;
- ii) oocyte(s) are warmed or thawed and embryos are used, or intend to be used, for fresh embryo transfer.

A **thaw cycle** is an ART treatment cycle in which cryopreserved embryo(s) are warmed or thawed with the intention of performing an embryo transfer.

Refer to the Glossary for a detailed list of terms used in this report.

Summary

Assisted reproductive technology (ART) is a group of procedures that involve the in vitro (outside of body) handling of human oocytes (eggs) and sperm or embryos for the purposes of establishing a pregnancy. Each ART treatment involves a number of stages and is generally referred to as an ART treatment cycle. The embryos transferred to a female patient can either originate from the cycle in which they were created (fresh cycle) or be cryopreserved and thawed before transfer (thaw cycle).

Over 113,000 ART treatment cycles were performed in Australia and New Zealand in 2024

There were 113,905 ART treatment and lab-only cycles performed in Australian and New Zealand ART Units in 2024 (104,721 and 9,184 respectively). This represents an increase of 1.1% in Australia and 0.4% in New Zealand from 2023, equating to 18.5 cycles per 1,000 women of reproductive age (15–44 years) in Australia and 8.5 cycles per 1,000 women of reproductive age in New Zealand.

Women used their own oocytes or embryos (autologous cycles) in 94.1% (107,172) of fresh and/or thaw cycles. These cycles were undertaken by 56,245 women, with more cycles per woman in Australia (1.9 cycles per woman) than in New Zealand (1.7 cycles per woman). There were 271 surrogacy/gestational carrier cycles in 2024.

Of the 110,969 autologous and recipient cycles, 14.4% were undertaken by single female and 4.6% by female-female intended parents. In oocyte/embryo recipient cycles, more than one in three (39.1%) cycles were performed by single female or female-female intended parents, noting that this includes cycles where oocytes or embryos were provided by one female intended parent to her female partner.

Pre-implantation genetic testing (PGT) took place in 9.7% of autologous, recipient, surrogacy and lab-only cycles, compared to 8.8% of cycles in 2023.

One in four cycles attributed to male infertility

Male factor infertility was reported in 23.1% of autologous and recipient cycles undertaken by female-male intended parents in 2024. The primary cause of male infertility was unexplained in the majority (75.1%) of these cycles.

Autologous thaw and recipient cycle live birth rates continue to rise

For autologous fresh cycles, the live birth rate was 17.6% per OPU (excluding freeze-all) cycle, and 26% for fresh cycles that progressed to embryo transfer. For autologous thaw cycles, the live birth rate was 33.1% per initiated cycle, and 33.5% for cycles that progressed to embryo transfer.

Live birth rates varied by the woman's age. Among women aged under 30 years, the live birth rate per embryo transfer was 41.6% for autologous fresh cycles and 41.1% for autologous thaw cycles. Among women aged over 44 years, the live birth rate per embryo transfer was 2.9% for autologous fresh cycles and 12.3% for autologous thaw cycles.

The live birth rate was 28.4% per initiated recipient cycle, and 31.2% for recipient cycles that progressed to embryo transfer. Recipient cycle outcomes should be interpreted separately from autologous cycles, as the recipient's age may not reflect the age of the oocyte or embryo source.

Over 80% of the 20,918 babies born were full-term, singletons, and of normal birth weight

In 2024, ART treatment resulted in the birth of 20,918 babies, including 20,668 liveborn babies. Treatment undertaken in Australian ART units accounted for 18,519 (89.6%) liveborn babies and 2,149 (10.4%) were from treatment undertaken in New Zealand ART Units. Overall, birth outcomes were reassuring, with 82.5% of liveborn babies born as full-term singletons of normal birthweight.

More than one-third of women achieved a live birth in their first ever complete ART cycle

Among the 43,849 women who commenced their first ART ovarian stimulation cycle between January 2021 and December 2022 and were followed to December 2024, 37.4% achieved a live birth from their first complete ART cycle. A complete ART cycle includes the initial ovarian stimulation cycle and all subsequent fresh and frozen/thaw embryo transfers resulting from that stimulation. By the sixth complete cycle, 57.6% achieved a live birth. Under the assumption that women who discontinued treatment had the same likelihood of achieving a live birth as those who continued treatment, the estimated cumulative live birth rate after six complete cycles would be 76.9%. Cumulative live birth rates decreased substantially by the woman's age at treatment commencement.

Five-year trends show notable shifts in ART practice

Between 2020 and 2024, ART practice continued moving toward greater use of cryopreservation and blastocyst-stage embryo transfer. The proportion of initiated fresh cycles in which all oocytes or embryos were cryopreserved (commonly referred to as freeze-all cycles) increased substantially, from 31.6% in 2020 to 44.5% in 2024. Over the same period, the proportion of embryo transfer cycles using cryopreserved embryos increased from 60.5% to 69.1%, while the use of intracytoplasmic sperm injection (ICSI) in embryo transfer cycles declined slightly, from 56.1% to 54.6%.

There was also a continued shift away from cleavage-stage transfers toward blastocyst-stage transfers, with blastocyst transfers rising from 89.4% of transfers in 2020 to 94.4% in 2024. Vitrification was used in almost all oocyte and embryo cryopreservation cycles in 2024, increasing to 98.3% from 96.4% in 2020. Three in four (74%) of the 20,214 ART live births resulted from thaw cycles, up from 65.3% in 2020.

Live birth rates per embryo transfer cycle continue to increase

Live birth rates per embryo transfer cycle have increased steadily over the past five years. Between 2020 and 2024, the live birth rate for fresh embryo transfers rose modestly from 25.4% to 26.2%. Over the same period, the live birth rate for frozen/thaw embryo transfers increased more substantially, from 31.2% to 33.3%. Overall, the live birth rate per embryo transfer cycle increased from 28.9% in 2020 to 31.1% in 2024.

Single embryo transfers continue to increase, supporting a low multiple birth rate

The proportion of embryo transfers involving a single embryo continued to increase from 93% in 2020 to 95.4% in 2024. This reflects sustained clinical efforts to reduce the risks associated with multiple pregnancies while maintaining treatment success.

Over the same period, the multiple birth rate following ART treatment declined from 2.8% to 2.2%, reinforcing the safety benefits of single embryo transfer as routine practice.

1 Introduction

Globally, infertility affects millions of people. The World Health Organisation estimates that approximately one in six people of reproductive age experience infertility in their lifetime (World Health Organization 2023). Advancements in infertility treatments, particularly assisted reproductive technology (ART), have transformed reproductive care over the last four decades. ART is now a suite of mainstream medical interventions which have contributed to the birth of more than 13 million children worldwide (Adamson et al. 2025). In Australia, the most recent national estimates from the Australian Institute of Health and Welfare (AIHW) indicate that 6.3% of all women who gave birth in 2023 received some form of ART (AIHW 2025).

This annual report provides clinicians, researchers, government, patients and the broader community with information about ART treatment practices, success rates, pregnancy outcomes and birth outcomes in Australia and New Zealand. It supports ongoing monitoring of clinical practice and perinatal outcomes and enables national and international comparisons of ART treatment and safety. The commitment of ART Units to provide accurate treatment and outcome data to ANZARD supports transparency, quality improvement, patient counselling and public confidence in ART care.

The Fertility Society of Australia and New Zealand (FSANZ) and Australian and New Zealand ART Units, in collaboration with the University of New South Wales (UNSW Sydney), are committed to providing high-quality, informative annual reporting on ART treatment and are pleased to present this annual report on ART treatment undertaken in Australia and New Zealand in 2024.

Treatments covered in this report

ART refers to procedures that involve the in vitro (outside of body) handling of human oocytes (eggs) and sperm or embryos for the purpose of establishing a pregnancy (Zegers-Hochschild et al. 2017).

A typical fresh in vitro fertilisation (IVF) cycle involves the following five steps:

1. **Ovarian stimulation** – medication, commonly follicle stimulating hormone (FSH), is administered over several days to stimulate the maturation of multiple oocytes (eggs).
2. **Oocyte pick-up (OPU)** – oocytes are collected from ovarian follicles.
3. **Insemination and fertilisation** – collected oocytes are inseminated using the sperm from an intended parent or donor, with the aim of achieving fertilisation.
4. **Embryo development** – fertilised oocytes are cultured in an embryology laboratory. Embryos may be transferred or cryopreserved at the cleavage-stage, usually after 1-4 days of development, or at the blastocyst stage, usually after 5-6 days of development.
5. **Embryo transfer** – one embryo is transferred into the uterus with the aim of achieving a pregnancy.

Treatment may be discontinued at any stage of a cycle for a range of clinical, laboratory, or personal reasons. These may include suboptimal response to ovarian stimulation, no oocytes being collected, failed fertilisation, inadequate embryo development, or patient choice.

Over the past four decades, ART has evolved from a typical fresh IVF cycle into a broader suite of reproductive treatments and laboratory procedures, including:

- **Intracytoplasmic sperm injection (ICSI)** – where a single sperm is injected directly into the oocyte.

- **Assisted hatching** – where the zona pellucida, outer layer of the embryo, is thinned or perforated in the laboratory to assist embryo hatching.
- **Gamete intrafallopian transfer (GIFT)** – where mature oocytes and sperm are placed directly into a woman's fallopian tubes so that fertilisation may take place in vivo (inside the body). While once popular, this procedure now accounts for only a very small percentage of ART cycles.
- **Preimplantation genetic testing (PGT)** – where cells from an embryo are tested for chromosomal or genetic conditions before embryo transfer.
- **Oocyte or embryo donation** – where a female patient who is not an intended parent intends to or donates her oocytes or embryos for use by another person or couple, or where a female intended parent provides oocytes or embryos to a female partner who is also an intended parent (commonly known as reciprocal IVF).
- **Oocyte or embryo recipient** – where a female patient who is an intended parent receives oocytes or embryos from another person or couple who is not an intended parent, or where a female intended parent receives oocytes or embryos from a female partner who is also an intended parent (commonly known as reciprocal IVF), to achieve a pregnancy.
- **Cryopreservation and storage** – where suitable oocytes or embryos not transferred in the initial treatment cycle are cryopreserved and stored for potential future use. Cryopreservation techniques include both slow freezing and vitrification. Cryopreserved oocytes or embryos may be later thawed or warmed and transferred in subsequent treatment cycles.
- **Freeze-all cycles** – where all suitable oocytes or embryos resulting from an OPU are cryopreserved for potential future use, with no fresh embryo transfer undertaken in that cycle.
- **Fertility preservation** – cryopreservation and storage of oocytes or embryos for medical and non-medical fertility preservation.
- **In vitro maturation** – where immature oocytes are collected and matured in a special culture medium before insemination is attempted.
- **Surrogacy arrangements** – where the 'gestational carrier' or 'surrogate' agrees to carry a pregnancy for another person or couple, known as the 'intended parent(s)'. The oocytes and/or sperm used to create the embryo(s) may come either from the intended parent(s) or from a donor(s).

In addition, a number of other fertility treatments are undertaken in Australia and New Zealand. Artificial insemination is one such treatment by which sperm are placed into the female genital tract (for example, intracervical or intrauterine) and can be used with ovarian stimulation or in natural cycles. Artificial insemination can be undertaken using sperm from an intended parent, or a donor, also known as 'donor (sperm) insemination' (DI). Only DI performed at an ART Unit is reported to ANZARD.

Data used in this report

This report provides information on ART and DI treatments performed in an accredited ART Unit and the resulting treatment, pregnancy and birth outcomes. Also included is an analysis of trends in ART treatments and outcomes in the five years from 2020 to 2024. Reporting ART treatment cycles in Australia and New Zealand is a requirement for ART Units to be licensed by FSANZ's Reproductive Technology Accreditation Committee (RTAC). All ART Units in Australia and New Zealand provided data to ANZARD for cycles performed in 2024, comprising 97 ART Units in Australia and 8 ART Units in New Zealand. The full list of contributing ART Units can be found in Appendix A.

ANZARD uses a statistical linkage key (SLK) to link successive treatment cycles undertaken by the same female patient, enabling the number of female patients receiving treatment and their treatment outcomes over time to be reported. The SLK is a combination of the first two letters of a female patient's first name, the first two letters of their surname, their date of birth, and other data items.

As a joint initiative of the NPESU at UNSW Sydney and FSANZ, ANZARD was upgraded in 2020 to the ANZARD 3.0 Data Dictionary to accommodate new treatment types and reflect different types of patients involved in ART treatments. ANZARD 3.0 collects more information about the intended parents, causes of infertility, period of infertility, PGT, lab-only cycles and fertility preservation. As a result, there are new terms specific to ANZARD 3.0 that are used in this report:

- lab-only cycles – applies to cycles involving laboratory procedures only, with no patient monitoring, treatment, or planned embryo transfer.
- sex of the intended parent(s) – the sex of the intended parent(s) presented in this report is based on their sex at birth to align with the type of ART treatment provided to the individual. This may not be the same as the identified gender of the intended parent(s).

A more detailed description of ANZARD 3.0 can be found in Appendices B and C.

Structure of this report

This report has nine chapters, including this introductory chapter (Chapter 1).

Chapter 2 — 'Overview of ART treatment in 2024', provides an outline of the numbers and outcomes of all ART treatments undertaken in Australia and New Zealand.

Chapter 3 — 'Autologous and donation/recipient cycles in 2024', presents data on the number of cycles, cycle types and the outcomes of treatment in terms of discontinued treatment, clinical pregnancies, and births.

Chapter 4 — 'Pregnancy and birth outcomes following autologous and recipient embryo transfer cycles in 2024', presents data on the outcomes of clinical pregnancies and births following autologous and recipient cycles including a description of perinatal outcomes.

Chapter 5 — 'Other cycle types, procedures and treatment complications in 2024', includes information on surrogacy and GIFT cycles, fertility preservation, PGT and assisted hatching procedures.

Chapter 6 — 'Donor sperm insemination cycles in 2024', presents data on DI cycles and their outcomes, including a description of pregnancy and perinatal outcomes.

Chapter 7 — 'Trends in ART treatment and outcomes: 2020–2024', presents trends in ART treatments during the last five years of data collection in Australia and New Zealand.

Chapter 8 — 'Women undertaking autologous treatment in 2024', presents information on the number of women undergoing ART treatment in 2024.

Chapter 9 — 'Cycle-specific and cumulative live birth rates: 2021-2024', presents information for a cohort of women who started their first autologous ART treatment cycle during between January 2021 and December 2022 and subsequent ART treatments they had up until 31 December 2024, or until they achieved a live birth (a birth of at least one liveborn baby).

Appendices — Appendix A lists the contributing ART Units. Appendix B provides an overview of the ANZARD 3.0 Data Dictionary that was used to prepare this report. Appendix C provides a detailed list of the data items in the collection.

2 Overview of ART treatment in 2024

Number of cycles performed

There were 113,905 ART treatment and lab-only cycles reported from Australian and New Zealand ART Units in 2024 (Table 1). Of these:

- 91.9% (104,721) were from Australian ART Units and
- 8.1% (9,184) were from New Zealand ART Units.

The overall number of ART treatment and lab-only cycles in 2024 increased by 1.1% from the 112,707 cycles in 2023, with a 1.1% increase in Australia and 0.4% increase in New Zealand. In 2024, the number of ART treatment cycles represented 18.5 cycles per 1,000 women of reproductive age (15–44 years) in Australia, compared with 8.5 cycles per 1,000 women of reproductive age in New Zealand (Australian Bureau of Statistics 2024; Statistics New Zealand 2024).

Types of cycles performed

The majority (94.1%) of cycles in 2024 were autologous cycles (where a female intended parent intended to use or used her own oocytes or embryos) (Table 1). Of the 113,905 cycles performed in 2024:

- 57% (64,912) were autologous fresh cycles,
- 37.1% (42,260) were autologous thaw cycles,
- 2.2% (2,506) were oocyte recipient cycles,
- 1.1% (1,291) were embryo recipient cycles,
- 0.8% (886) were oocyte donation cycles,
- 0.1% (71) were embryo donation cycles,
- 0.3% (370) were surrogacy arrangement cycles, and
- 1.4% (1,609) were lab-only cycles.

Clinical pregnancy and birth outcomes

Of all initiated ART cycles (excluding donation, surrogacy commissioning and lab-only cycles) in 2024, 22.8% (25,389) resulted in a clinical pregnancy and 18.2% (20,214) in a live birth (Table 1). Of these clinical pregnancies:

- 89.5% (22,720) were from Australian ART Units and
- 10.5% (2,669) were from New Zealand ART Units.

There were 20,918 babies born (including 20,668 liveborn babies) following ART treatment in 2024. Of these:

- 89.6% (18,742) were from Australian ART Units and
- 10.4% (2,176) were from New Zealand ART Units.

Of the liveborn babies, 82.5% (17,057) were singletons at term (gestational age of 37–41 weeks) with normal birthweight ($\geq 2,500$ grams). The multiple birth rate was 2.2%.

Table 1: Number of initiated ART cycles by treatment type, Australia and New Zealand, 2024

Cycle type	Number of initiated ART cycles	Percent of initiated ART cycles	Number of clinical pregnancies	Number of live births	Number of liveborn babies	Number of liveborn singletons at term with normal birthweight
Autologous	107,172	94.1	23,932	19,033	19,461	16,085
<i>Fresh</i>	64,912	57.0	6,516	5,031	5,162	4,191
<i>Thaw</i>	42,260	37.1	17,416	14,002	14,299	11,894
Oocyte recipient	2,506	2.2	823	642	658	527
Embryo recipient	1,291	1.1	520	437	446	356
Oocyte donation	886	0.8	..	..	..	..
Embryo donation	71	0.1	..	..	..	..
GIFT ^(a)	0	0.0	..	..	..	..
Surrogacy arrangement cycles	370	0.3	114	102	103	89
<i>Commissioning cycles^(b)</i>	99	0.1	..	..	..	..
<i>Surrogate/gestational carrier cycles^(c)</i>	271	0.2	114	102	103	89
Lab-only cycles	1,609	1.4	..	..	..	..
Total	113,905	100.0	25,389	20,214	20,668	17,057

(a) GIFT cycles were classified separately from autologous cycles.

(b) A variety of cycle types undertaken as part of surrogacy arrangements, e.g. cycles undertaken by intended parents providing their oocytes or embryos for use by the surrogate/gestational carrier.

(c) A cycle undertaken by a female patient who carries, or intends to carry, a child on behalf of the intended parent(s) with an agreement that the child will be raised by the intended parent(s).

3 Autologous and donation/recipient cycles in 2024

This chapter presents data on initiated autologous cycles, oocyte/embryo donation cycles and oocyte/embryo recipient cycles. Surrogacy arrangement cycles and GIFT cycles are presented separately in Chapter 5.

3.1 Overview of autologous and recipient cycles

Intended parents

The ART cycles in sections 3.1 to 3.3 include treatment cycles undertaken by female-male, single female and female-female intended parents only. Cycles involving male-male and single male intended parents, such as oocyte/embryo donation cycles and surrogacy arrangement cycles, are covered in section 3.4 and Chapter 5, respectively.

There were 46,756 female-male couples, 9,977 single females and 2,929 female-female couples who undertook autologous and recipient cycles in 2024.

Of the 110,969 autologous and recipient cycles, 80.9% were undertaken by female-male intended parents, followed by single females (14.4%) and female-female intended parents (4.6%). One in four (26.6%) oocyte/embryo recipient cycles were for female-female intended parents (Table 2), of which 25.2% (955) of oocyte/embryo recipient cycles involved one female intended parent providing oocytes/embryos to a female partner who is also an intended parent.

Table 2: Number of autologous and recipient cycles by intended parents and treatment type, Australia and New Zealand, 2024

Intended parents	Autologous				Oocyte/Embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%	n	%	n	%
Female-male couple	49,898	76.9	37,615	89.0	2,312	60.9	89,825	80.9
Single female	12,767	19.7	2,748	6.5	476	12.5	15,991	14.4
Female-female couple	2,247	3.5	1,897	4.5	1,009	26.6	5,153	4.6
Total	64,912	100.0	42,260	100.0	3,797	100.0	110,969	100.0

Age of female patients and their partners

The average age of female patients undergoing autologous cycles was 36 years. For female patients undergoing oocyte/embryo recipient cycles, the mean age was 40 years, four years older than those in autologous cycles. The largest proportion of autologous cycles were undertaken by female patients aged 35–39 years. Of all autologous and oocyte/embryo recipient cycles, 24.8% were undertaken by female patients aged 40 or older (Table 3).

Table 3: Number of autologous and recipient cycles by female patient age and treatment type, Australia and New Zealand, 2024

Age group (years) ^(a)	Autologous				Oocyte/Embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%	n	%	n	%
< 30	5,318	8.2	3,594	8.5	192	5.1	9,104	8.2
30–34	17,937	27.6	12,798	30.3	590	15.5	31,325	28.2
35–39	24,889	38.3	17,358	41.1	755	19.9	43,002	38.8
40–44	15,247	23.5	7,901	18.7	1,136	29.9	24,284	21.9
≥ 45	1,521	2.3	609	1.4	1,124	29.6	3,254	2.9
Total	64,912	100.0	42,260	100.0	3,797	100.0	110,969	100.0

(a) Age at start of a treatment cycle.
Note: Data are collected for each treatment cycle; therefore, some individuals may be counted more than once.

The average age of male partners was 38 years, with 36.2% aged 40 or older. The average age of female partners was 36 years (Table 4).

Table 4: Number of autologous and recipient cycles by female patients' partner age and treatment type, Australia and New Zealand, 2024

Age group (years) of intended parent ^(a)	Autologous				Oocyte/Embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%	n	%	n	%
Male partner								
< 30	2,778	5.6	1,981	5.3	45	1.9	4,804	5.3
30–34	11,354	22.8	9,318	24.8	246	10.6	20,918	23.3
35–39	17,125	34.3	13,931	37.0	510	22.1	31,566	35.1
40–44	12,216	24.5	8,289	22.0	710	30.7	21,215	23.6
≥ 45	6,424	12.9	4,096	10.9	801	34.6	11,321	12.6
Not stated	1	0.0	0	0.0	0	0.0	1	0.0
Total male partners	49,898	100.0	37,615	100.0	2,312	100.0	89,825	100.0
Female partner								
< 30	316	14.1	203	10.7	109	10.8	628	12.2
30–34	768	34.2	621	32.7	388	38.5	1,777	34.5
35–39	695	30.9	591	31.2	353	35.0	1,639	31.8
40–44	329	14.6	323	17.0	138	13.7	790	15.3
≥ 45	139	6.2	158	8.3	21	2.1	318	6.2
Not stated	0	0.0	1	0.1	0	0.0	1	0.0
Total female partners	2,247	100.0	1,897	100.0	1,009	100.0	5,153	100.0

(a) Age at start of a treatment cycle.

Note: Data are collected for each treatment cycle; therefore, some individuals may be counted more than once.

Parity

Parity is the number of previous pregnancies of 20 weeks or more gestation experienced by a woman. A woman who has had no previous pregnancies of 20 or more weeks gestation is called 'nulliparous'. A woman who has had at least one previous pregnancy of 20 weeks or more gestation is described as 'parous'.

Of the 110,969 initiated autologous and recipient cycles undertaken in 2024, 74.2% were undertaken by nulliparous women. Of autologous cycles (fresh and thaw), 74.3% were undertaken by nulliparous women, compared with 72% for oocyte/embryo recipient cycles (Table 5). The proportion of parous women is usually higher in thaw cycles than in fresh cycles because women often return to use frozen embryos after a previous pregnancy of 20 weeks or more gestation.

Table 5: Number of autologous and recipient cycles by parity and treatment type, Australia and New Zealand, 2024

Parity	Autologous				Oocyte/embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%	n	%	n	%
Nulliparous	52,155	80.3	27,485	65.0	2,735	72.0	82,375	74.2
Parous	12,699	19.6	14,764	34.9	1,062	28.0	28,525	25.7
Not stated	58	0.1	11	0.0	0	0.0	69	0.1
Total	64,912	100.0	42,260	100.0	3,797	100.0	110,969	100.0

Note: Data are collected for each treatment cycle; therefore, some individuals may be counted more than once.

Cause of infertility

Causes of infertility may relate to either the female intended parent or her male partner, both, or may be unexplained. For ART cycles performed in 2024 (ANZARD 3.0), cause of infertility is reported for female-male intended parents undertaking ART to treat infertility. The presence of infertility and the associated clinical diagnosis for female and male intended parents is determined by the treating clinician or ART Unit. As a result, diagnostic definitions may vary among clinicians and ART Units and should be interpreted with considerable caution.

Of the 89,825 initiated autologous and recipient cycles undertaken by female-male intended parents, 45.6% reported only female infertility factors, 9.9% reported male infertility factors as the only cause of infertility, 13.2% reported combined female-male factors and 24.9% reported infertility as 'unexplained' (Table 6).

There were 7,482 (8.9%) cycles where the female intended parent had polycystic ovary syndrome (PCOS), regardless of whether it contributed to infertility.

Table 6: Number of autologous and recipient cycles by intended parent cause of infertility, Australia and New Zealand, 2024

Cause of infertility	Autologous				Oocyte/embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%	n	%	n	%
Tubal disease only	1,097	2.2	1,071	2.8	13	0.6	2,181	2.4
Endometriosis only	2,482	5.0	2,011	5.3	43	1.9	4,536	5.0
Other female factors only	16,051	32.2	11,111	29.5	1,328	57.4	28,490	31.7
Combined female factors only	2,877	5.8	2,675	7.1	224	9.7	5,776	6.4
Combined female-male factors	6,459	12.9	5,061	13.5	319	13.8	11,839	13.2
Male factor infertility only	4,576	9.2	4,294	11.4	53	2.3	8,923	9.9
Unexplained infertility	11,824	23.7	10,241	27.2	268	11.6	22,333	24.9
Not stated	0	0.0	0	0.0	0	0.0	0	0.0
Treatment not for infertility	4,532	9.1	1,151	3.1	64	2.8	5,747	6.4
Total	49,898	100.0	37,615	100.0	2,312	100.0	89,825	100.0

There were 20,762 autologous and recipient cycles where the male intended parent was reported as having male factor infertility (Table 7). In 75.1% of these cycles, the primary cause of male infertility was idiopathic (unexplained).

Table 7: Number of autologous and recipient cycles by male intended parent primary cause of infertility, Australia and New Zealand, 2024

Principal cause of male factor infertility	Autologous				Oocyte/embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%	n	%	n	%
Spermatogenic failure								
Idiopathic (unexplained)	8,285	75.1	7,029	75.1	282	75.8	15,596	75.1
Genetic – Klinefelter	67	0.6	68	0.7	5	1.3	140	0.7
Genetic – Y deletion	53	0.5	37	0.4	0	0.0	90	0.4
Genetic – other aneuploidies, single gene	229	2.1	220	2.4	24	6.5	473	2.3
Testis damage – cancer treatment	337	3.1	315	3.4	8	2.2	660	3.2
Testis damage – other (e.g. vascular, infective, trauma)	509	4.6	411	4.4	12	3.2	932	4.5
Gonadotrophin deficiency	141	1.3	109	1.2	3	0.8	253	1.2
Obstruction								
Vasectomy	832	7.5	610	6.5	29	7.8	1,471	7.1
Congenital absence of the vas deferens/cystic fibrosis	101	0.9	125	1.3	0	0.0	226	1.1
Obstructive disorder	127	1.2	144	1.5	1	0.3	272	1.3
Erectile and Ejaculatory								
Erectile dysfunction (incl. psychosexual)	205	1.9	143	1.5	6	1.6	354	1.7
Ejaculatory disorders (incl. spinal injury, retrograde and anejaculation)	149	1.4	144	1.5	2	0.5	295	1.4
Total ^(a)	11,035	100.0	9,355	100.0	372	100.0	20,762	100.0

(a) Includes cycles where the principal cause of male infertility was not stated/missing.

Intracytoplasmic sperm injection procedures

Of the 48,118 autologous fresh cycles where fertilisation was attempted, 59.8% used ICSI procedures and 40.2% used IVF procedures.

Of the fresh oocyte recipient cycles where fertilisation was attempted to create an embryo, 88.3% used ICSI procedures and 11.7% used IVF procedures (Table 8).

Table 8: Number of autologous and recipient cycles with fertilisation attempted by treatment type and procedure, Australia and New Zealand, 2024

Procedure	Autologous ^(a)		Oocyte recipient ^(a)	
	n	%	n	%
IVF	19,356	40.2	111	11.7
ICSI ^(b)	28,762	59.8	841	88.3
Total	48,118	100.0	952	100.0

(a) Fresh cycles where fertilisation was attempted with a fresh or thawed oocyte.

(b) Includes 2,363 mixed IVF/ICSI cycles.

Number of embryos transferred

Of the 64,676 fresh and thaw embryo transfer cycles undertaken in autologous and recipient cycles, 95.4% were single embryo transfer (SET) cycles and 4.6% were double embryo transfer (DET). In women aged under 35, 97.7% of embryo transfer cycles were SET cycles and 2.3% were DET cycles. In women aged 35 or older, 94.2% of cycles were SET cycles, 5.8% were DET cycles and <1% had three or more embryos transferred (Table 9).

Table 9: Number of autologous and recipient embryo transfer cycles by number of embryos transferred and female patient age, Australia and New Zealand, 2024

Age group (years) ^(a)	One		Two		Three or more		All	
	n	%	n	%	n	%	n	%
< 30	4,952	97.9	106	2.1	0	0.0	5,058	7.8
30–34	17,811	97.6	441	2.4	0	0.0	18,252	28.2
35–39	24,535	96.7	842	3.3	1	0.0	25,378	39.2
40–44	12,557	90.2	1,356	9.7	5	0.0	13,918	21.5
≥ 45	1,856	89.7	207	10.0	7	0.3	2,070	3.2
Total	61,711	95.4	2,952	4.6	13	0.0	64,676	100.0

(a) Age at start of a treatment cycle.

Stage of embryo development

Of the 64,676 autologous and recipient embryo transfer cycles, 5.6% involved the transfer of day 1–4 embryos (cleavage-stage embryos) and 94.4% day 5–6 embryos (blastocysts). Of autologous cycles, blastocyst transfers made up 85.4% of fresh cycles compared with 98.8% of thaw cycles (Table 10).

Table 10: Number of embryo transfer cycles by treatment type and stage of embryo development, Australia and New Zealand, 2024

Stage of embryo development	Autologous				Oocyte/embryo recipient			
	Fresh		Thaw		Fresh		Thaw	
	n	%	n	%	n	%	n	%
Cleavage embryo	2,829	14.6	523	1.2	75	11.3	209	7.5
Blastocyst ^(a)	16,547	85.4	41,318	98.8	586	88.7	2,589	92.5
Total	19,376	100.0	41,841	100.0	661	100.0	2,798	100.0

(a) Includes 2 cycles where both blastocyst and cleavage-stage embryos were transferred.

Transfer of cryopreserved embryos

Embryos created in a fresh cycle can be cryopreserved by either slow freezing or ultra-rapid (vitrification) methods. Slow-frozen and vitrified embryos can be thawed/warmed and then transferred in subsequent cycles. Of the 44,639 frozen/thawed embryo transfer cycles, 98.1% involved the transfer of vitrified embryos. Of the frozen/thawed blastocyst transfer cycles, 98.3% had vitrified embryos transferred. By comparison, 86.1% of frozen/thawed cleavage-stage embryo transfer cycles used vitrified embryos (Table 11).

Table 11: Number of embryo transfer cycles by cryopreservation method and stage of embryo development, Australia and New Zealand, 2024

Cryopreservation method	Autologous				Oocyte/embryo recipient			
	Cleavage embryo		Blastocyst		Cleavage embryo		Blastocyst	
	n	%	n	%	n	%	n	%
Slow frozen	83	15.9	732	1.8	19	9.1	20	0.8
Vitrification ^(a)	440	84.1	40,586	98.2	190	90.9	2,569	99.2
Total	523	100.0	41,318	100.0	209	100.0	2,589	100.0

(a) Includes 2 cycles where both vitrified and slow-frozen embryos were transferred.

Live births from initiated autologous fresh and thaw, and recipient cycles among ART Units

Figure 1 reports on live births per initiated autologous fresh (excluding freeze-all), autologous thaw and recipient cycles among 104 ART Units that performed 50 or more of these cycles combined in 2024.

The highest live birth rate was around 38% and the lowest was around 5%. These data should be interpreted with caution because of the small number of patients who underwent autologous and recipient cycles in some ART Units. The live birth rates among ART Units may also vary because of differences in the characteristics and prognosis of patients treated, and different approaches to the use of ARTs and other fertility treatments.

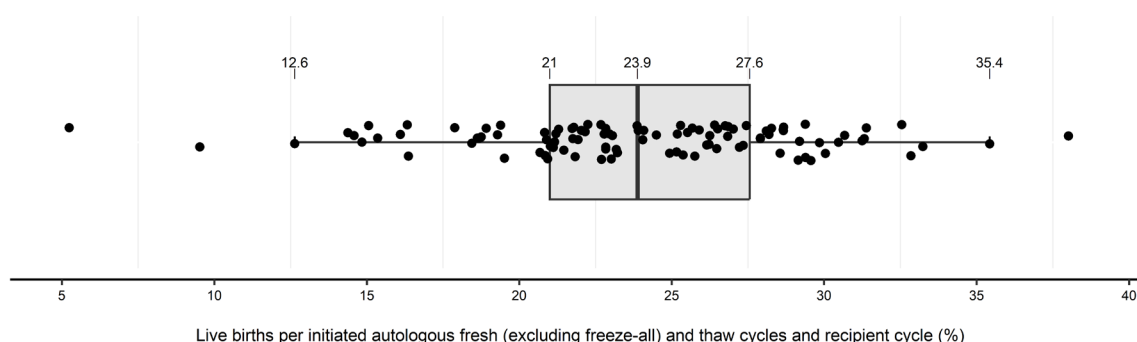
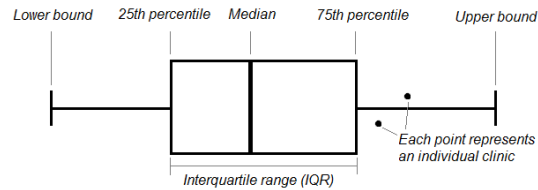


Figure 1: Live birth rate per initiated autologous fresh (excluding freeze-all) and thaw and recipient cycle (%) among ART Units, Australia and New Zealand, 2024

How to interpret Figure 1



- Figure 1 reports on live births per initiated autologous fresh (excluding freeze-all), autologous thaw, and recipient cycles (%) among the 104 ART Units that performed 50 or more of these cycles combined in 2024.
- Each point represents an ART Unit.
- A percentile indicates the value below which a given percentage of ART Units live birth rates fall. For example, 50% of ART Units had a live birth rate less than the median (23.9%).
- The interquartile range (IQR) indicates the range of live birth rates achieved by the middle 50% of ART Units (IQR: 21%–27.6%).
- The upper and lower bounds represent the range in which it would be expected that approximately 98% of ART Units will fall (12.6%–35.4%).
- These data should be interpreted with caution because of the small number of patients who underwent autologous and recipient cycles in some ART Units. The live birth rates among ART Units may also vary because of differences in the characteristics and prognosis of patients treated, different approaches to the use of ARTs and other fertility treatments.

For more information on ART Unit success rates, refer to the YourIVFSuccess website ([IVF Clinic Success Rates & Costs | YourIVFSuccess](#)).

3.2 Autologous fresh cycles

In 2024, there were 64,912 initiated autologous fresh cycles, of which 63,536 (97.9%) were FSH-stimulated cycles and 1,376 (2.1%) were unstimulated cycles. Of these initiated cycles, 93.9% (60,930) were in Australian ART Units and 6.1% (3,982) were in New Zealand ART Units.

Progression of autologous fresh cycles

Figure 2 shows the main stages of autologous fresh cycles and the resulting treatment outcomes. Of the 64,912 initiated autologous fresh cycles in 2024, 89.8% had OPU performed, 45.8% were freeze-all cycles and 29.8% had embryos transferred (Figure 2). A treatment cycle can be discontinued for a variety of reasons, including inadequate response of ovaries to medication, excessive ovarian stimulation, failure to obtain oocytes, failure of oocyte fertilisation, inadequate embryo growth or patient choice.

Freeze-all cycles are ART treatment cycles where all oocytes or embryos are cryopreserved for potential future use. This increasingly common practice (Table 42) is used for a variety of reasons, including reducing the risk of ovarian hyperstimulation syndrome (OHSS), improving endometrial–embryo synchronicity, as part of a PGT cycle, for fertility preservation or as a deliberate treatment option used by some clinicians.

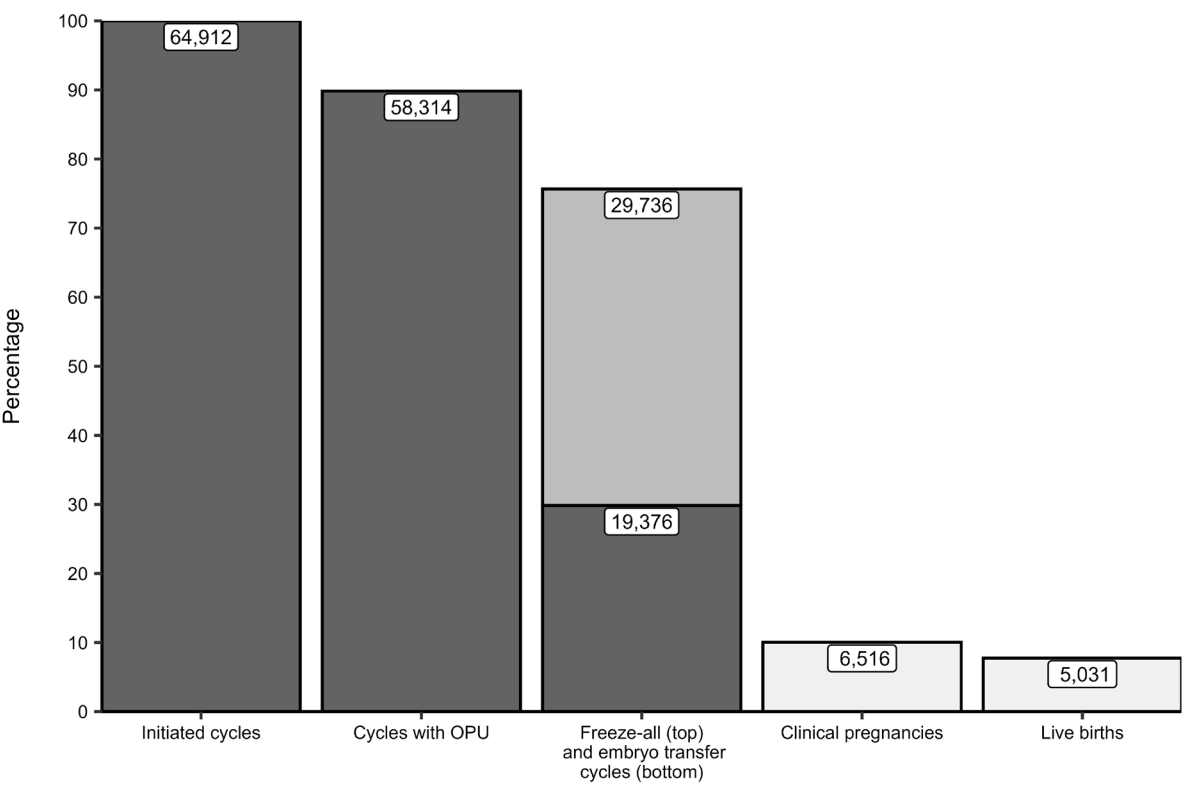


Figure 2: Progression of autologous fresh cycles, Australia and New Zealand, 2024

Clinical pregnancies and live births by women's age

Maternal age is one of the key factors associated with the outcomes of autologous fresh cycles. The highest live birth rate per embryo transfer cycle was in women aged under 30 (41.6%). The rate declined with advancing age, with a rate of 10.7% for females aged 40–44 and 2.9% for females aged 45 or older (Table 12). In women aged 45 or older, 934 cycles (61.4%) occurred in women aged 45 years and 306 cycles (20.1%) in women aged 46 years, with the remaining 281 cycles (18.5%) occurring in women aged 47 or older.

In women aged under 30 years, freeze-all cycles accounted for 59.2% of initiated fresh cycles with the rate decreasing to 18.4% in women 45 years or older. Of the 64,912 initiated autologous fresh cycles, all oocytes were cryopreserved in 9,119 cycles (14%) and all embryos were cryopreserved in 20,617 cycles (31.8%). Of the 29,736 freeze-all cycles, 8,776 were for fertility preservation. Refer to Chapter 5 for details about cycles performed for fertility preservation.

Of the 64,912 initiated cycles, there were 625 cycles (1%) where oocyte(s) were warmed or thawed and OPU was not performed. Of these 625 cycles where oocyte(s) were warmed or thawed, fresh embryos were transferred in 469 cycles resulting in a live birth rate per oocyte thaw cycle of 24%.

Table 12: Outcomes of autologous fresh cycles by female patient age, Australia and New Zealand, 2024

Stage/outcome of treatment	Age group (years) ^(a)					All
	< 30	30–34	35–39	40–44	≥ 45	
Initiated cycles ^(b)	5,318	17,937	24,889	15,247	1,521	64,912
Cycles with OPU	4,893	16,609	22,582	13,040	1,190	58,314
Freeze-all cycles ^(c)	3,149	10,044	11,796	4,467	280	29,736
Embryo transfer cycles	1,318	5,012	7,505	5,095	446	19,376
Clinical pregnancies	642	2,224	2,687	936	27	6,516
Live births	548	1,881	2,046	543	13	5,031
Live births per OPU cycle (excluding freeze-all) (%) ^(d)	31.4	28.7	19.0	6.3	1.4	17.6
Live births per embryo transfer cycle (%)	41.6	37.5	27.3	10.7	2.9	26.0
Live births per clinical pregnancy (%)	85.4	84.6	76.1	58.0	48.1	77.2

(a) Age at start of a treatment cycle.

(b) FSH-stimulation was administered or last menstrual period occurred.

(c) Freeze-all cycles are ART treatment cycles where all oocytes or embryos are cryopreserved for potential future use.

(d) Live births per OPU cycle (excluding freeze-all) were calculated using live births as the numerator and OPU cycles minus freeze-all cycles as the denominator. There were 9,202 OPU cycles that did not reach freeze-all or embryo transfer.

Figure 3 shows age-specific live birth rates per OPU cycle (excluding freeze-all cycles) by two-year age groups. The 95% confidence intervals represent the uncertainty surrounding the live birth rates for otherwise similar female patients of that age group. The wider 95% confidence intervals for women in age groups under 30 years indicate greater uncertainty in the birth rates for these female patients as being representative of all female patients of similar age and characteristics.

The highest live birth rates were in females aged 32 years or younger. For women aged 45 or older, only 1 live birth resulted from every 152 OPU cycles compared with 1 live birth from every 3 OPU cycles in women aged between 27 and 28.

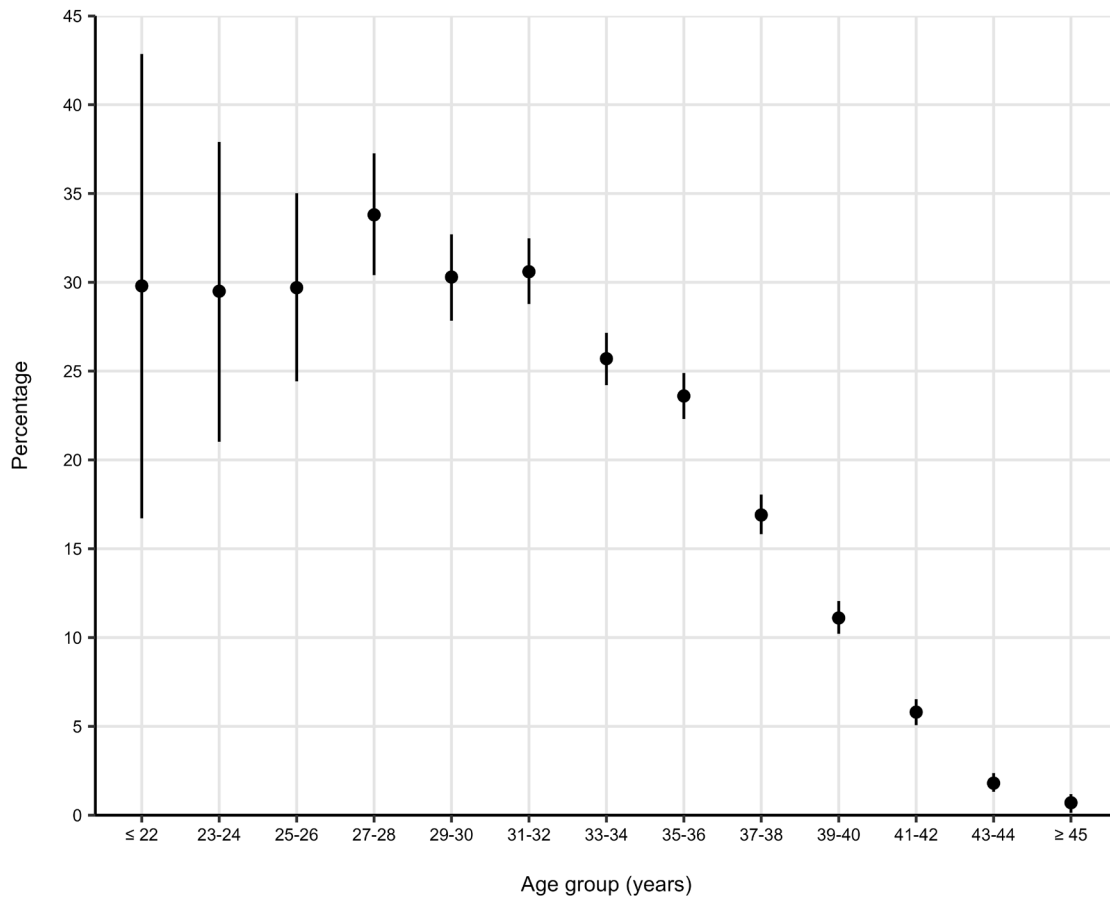


Figure 3: Live birth rate (with 95% confidence intervals) per OPU cycle (excluding freeze-all) by female patient's age at start of a treatment cycle, Australia and New Zealand, 2024

Clinical pregnancies and live births by cause of infertility

Causes of infertility may relate to either the female intended parent or her male partner, both, or may be unexplained. For ART cycles performed in 2024 (ANZARD 3.0), cause of infertility is reported for female-male intended parents undertaking ART to treat infertility. The presence of infertility and the associated clinical diagnosis for female and male intended parents is determined by the treating clinician or ART Unit. As a result, diagnostic definitions may vary among clinicians and ART Units and should be interpreted with considerable caution.

There were 4,532 autologous fresh cycles where ART was performed for reasons other than to treat medical infertility. Examples include chromosomal testing, human leukocyte antigens (HLA) matching and fertility preservation.

There were 49,898 initiated autologous fresh cycles undertaken by female-male intended parents. Cycles where male factor infertility was reported as the only cause of infertility in the intended parents had the highest live birth rate (21.5%) (Table 13). The cause of infertility was unexplained in the intended parents in 23.7% of autologous fresh cycles.

Table 13: Outcomes of autologous fresh cycles by cause of infertility, Australia and New Zealand, 2024

Cause of infertility	Number of initiated cycles	Embryo transfer cycles per initiated cycle (%)	Clinical pregnancies per initiated non-freeze-all cycle ^(a) (%)	Live births per initiated non-freeze-all cycle ^(b) (%)
Tubal disease only	1,097	45.8	23.5	18.0
Endometriosis only	2,482	36.7	20.8	16.7
Other female factors only	16,051	34.5	15.5	11.2
Combined female factors only	2,877	35.3	17.1	12.5
Combined female-male factors	6,459	38.0	17.8	13.6
Male factor infertility only	4,576	41.5	26.3	21.5
Unexplained infertility ^(c)	11,824	37.6	22.4	18.2
Not stated	0	..	..	..
Treatment not for infertility	4,532	6.8	7.9	5.2
Total	49,898	34.2	18.8	14.5

(a) Clinical pregnancies per initiated non-freeze-all cycle is calculated using clinical pregnancies as the numerator and initiated cycles minus freeze-all cycles as the denominator.

(b) Live births per initiated non-freeze-all cycle is calculated using live births as the numerator and initiated cycles minus freeze-all cycles as the denominator.

(c) Unexplained infertility is unexplained in both the female and male intended parents.

There were 11,035 autologous fresh cycles where the male intended parent was reported as having male factor infertility (Table 14). In 75.1% of these cycles, the primary cause of male infertility was idiopathic (unexplained).

The overall live birth rate per initiated non-freeze-all cycle was 16.7%, ranging from 11% for genetic – other aneuploidies, single gene to 34.2% for genetic – Y deletion (Table 14).

Table 14: Outcomes of autologous fresh cycles by male intended parent principal cause of infertility, Australia and New Zealand, 2024

Primary cause of male infertility	Number of initiated cycles	Embryo transfer cycles per initiated cycle (%)	Clinical pregnancies per initiated non-freeze-all cycle (%) ^(a)	Live births per initiated non-freeze-all cycle (%) ^(b)
Spermatogenic failure				
<i>Idiopathic (unexplained)</i>	8,285	40.0	21.1	16.5
<i>Genetic – Klinefelter</i>	67	40.3	28.2	28.2
<i>Genetic – Y deletion</i>	53	56.6	36.8	34.2
<i>Genetic - other aneuploidies, single gene</i>	229	15.3	13.4	11.0
<i>Testis damage – cancer treatment</i>	337	40.9	24.9	19.7
<i>Testis damage – other (e.g. vascular, infective, trauma)</i>	509	38.3	20.2	16.1
<i>Gonadotrophin deficiency</i>	141	41.8	24.2	19.8
Obstruction				
<i>Vasectomy</i>	832	38.0	19.5	14.6
<i>Congenital absence of the vas deferens/cystic fibrosis</i>	101	34.7	27.9	24.6
<i>Obstructive disorder</i>	127	41.7	25.0	21.3
Erectile and ejaculatory				
<i>Erectile dysfunction (incl. psychosexual)</i>	205	39.5	21.3	17.0
<i>Ejaculatory disorders (incl. spinal injury, retrograde and anejaculation)</i>	149	45.6	23.2	16.8
Total^(c)	11,035	39.5	21.2	16.7

(a) Clinical pregnancies per initiated non-freeze-all cycle is calculated using clinical pregnancies as the numerator and initiated cycles minus freeze-all cycles as the denominator.

(b) Live births per initiated non-freeze-all cycle is calculated using live births as the numerator and initiated cycles minus freeze-all cycles as the denominator.

(c) Includes cycles where the principal cause of male infertility was not stated/missing.

Clinical pregnancies and live births by stage of embryo development and number of embryos transferred

Overall, 92.7% of autologous fresh embryo transfer cycles were SET cycles, 7.3% were DET cycles and less than 0.1% had three or more embryos transferred. In female patients aged 40 or older, three or more fresh embryos were transferred in 7 cycles.

There were more blastocyst (85.4%) than cleavage-stage embryo transfer cycles (14.6%). The rates of clinical pregnancy and live birth were higher in blastocyst transfer cycles than in cleavage-stage embryo transfer cycles for both SET and DET cycles (Table 15). Caution should be taken when comparing clinical pregnancy and live birth rates following cleavage-stage embryo and blastocyst transfer. Patient characteristics, prognosis and treatment strategies may be different between these groups, and generally fewer embryos are available for transfer and cryopreservation when blastocyst culture is used.

The overall live birth rate per embryo transfer cycle was 26.8% for SET cycles and 14.7% for DET cycles (Table 15). Caution should be taken when comparing live birth rates following SET and DET cycles because patient characteristics and prognoses are different between these groups.

Table 15: Outcomes of autologous fresh embryo transfer cycles by stage of embryo development and number of embryos transferred, Australia and New Zealand, 2024

Stage/outcome of treatment	Cleavage		Blastocyst		Total	
	SET ^(a)	DET ^{(b)(c)(d)}	SET ^(a)	DET ^{(b)(c)(d)}	SET ^(a)	DET ^{(b)(c)(d)}
Embryo transfer cycles	2,222	607	15,741	806	17,963	1,413
Clinical pregnancies	452	107	5,738	219	6,190	326
Live births	325	65	4,498	143	4,823	208
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	20.3	17.6	36.5	27.2	34.5	23.1
<i>Live births per embryo transfer cycle (%)</i>	14.6	10.7	28.6	17.7	26.8	14.7

(a) SET: single embryo transfer.

(b) DET: double embryo transfer.

(c) Includes 2 cycles where both cleavage-stage embryos and blastocysts were transferred.

(d) Includes cycles where three or more embryos were transferred.

3.3 Autologous thaw cycles

This section presents data on autologous cycles in which cryopreserved embryo(s) were warmed or thawed with the intention of performing an embryo transfer.

There were 42,260 autologous thaw cycles reported in 2024 (Figure 4). Of these, 89.7% (37,927) were in Australian ART Units and 10.3% (4,333) in New Zealand ART Units.

Progression of autologous thaw cycles

Figure 4 shows the main stages of autologous thaw cycles and the resulting treatment outcomes.

Of the 42,260 initiated autologous thaw cycles, 99% had embryos transferred, 41.2% resulted in a clinical pregnancy and 33.1% resulted in a live birth (Figure 4).

In 2024, the rate of live births per embryo transfer cycle was higher for autologous thaw cycles than for autologous fresh cycles (33.5% and 26% respectively) (Table 12 and Table 16).

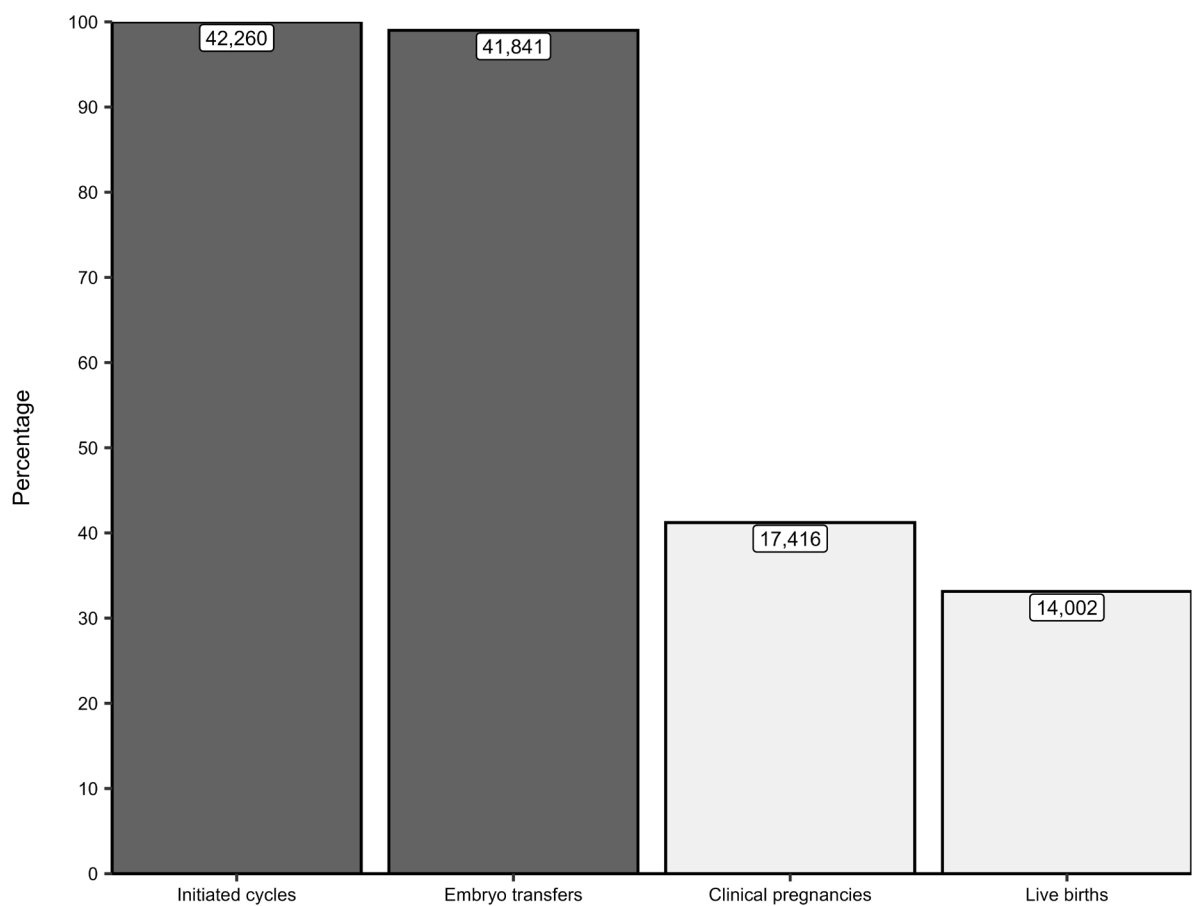


Figure 4: Progression of autologous thaw cycles, Australia and New Zealand, 2024

Clinical pregnancies and live births from autologous thaw cycles by women's age

The live birth rate per initiated thaw cycle and per thaw embryo transfer cycle was highest in women aged less than 30 years, with live birth rates declining for older women (Table 16).

The overall live birth rate per embryo transfer in autologous thaw cycles was 33.5%, which is 7.5 percentage points higher than in autologous fresh cycles (26%) (Table 12 and Table 16).

It is important to note that embryos thawed during a thaw cycle were created in an earlier initiated fresh cycle; therefore, a woman's age at the start of a thaw cycle is older than her age at the start of the initiated fresh cycle. Also, there has been a trend towards freeze-all cycles and PGT in recent years (Table 37 and Table 42), resulting in higher quality embryos being transferred in thaw cycles than fresh embryo transfer cycles. This may contribute to the higher success rates following autologous thaw cycles compared to autologous fresh cycles (Table 12 and Table 16).

Table 16: Outcomes of autologous thaw cycles by female patient age, Australia and New Zealand, 2024

Stage/outcome of treatment	Age group (years) ^(a)					All
	< 30	30–34	35–39	40–44	≥ 45	
Initiated cycles ^(b)	3,594	12,798	17,358	7,901	609	42,260
Embryo transfers	3,563	12,702	17,185	7,790	601	41,841
Clinical pregnancies	1,713	5,871	7,183	2,531	118	17,416
Live births	1,465	4,910	5,742	1,811	74	14,002
<i>Live births per initiated cycle (%)</i>	<i>40.8</i>	<i>38.4</i>	<i>33.1</i>	<i>22.9</i>	<i>12.2</i>	<i>33.1</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>41.1</i>	<i>38.7</i>	<i>33.4</i>	<i>23.2</i>	<i>12.3</i>	<i>33.5</i>
<i>Live births per clinical pregnancy (%)</i>	<i>85.5</i>	<i>83.6</i>	<i>79.9</i>	<i>71.6</i>	<i>62.7</i>	<i>80.4</i>

(a) Age at start of the thaw treatment cycle.

(b) Cycles where at least one embryo was thawed with the intention of performing an embryo transfer.

Figure 5 shows age-specific live birth rates per initiated autologous thaw cycle by two-year age groups. The 95% confidence intervals represent the uncertainty surrounding the live birth rates for otherwise similar female patients of that age group.

The highest live birth rates were observed in females in their early 20s and late 20s to early 30s. The wider 95% confidence intervals for women in age groups under 30 years indicates greater uncertainty in the birth rates for these female patients.

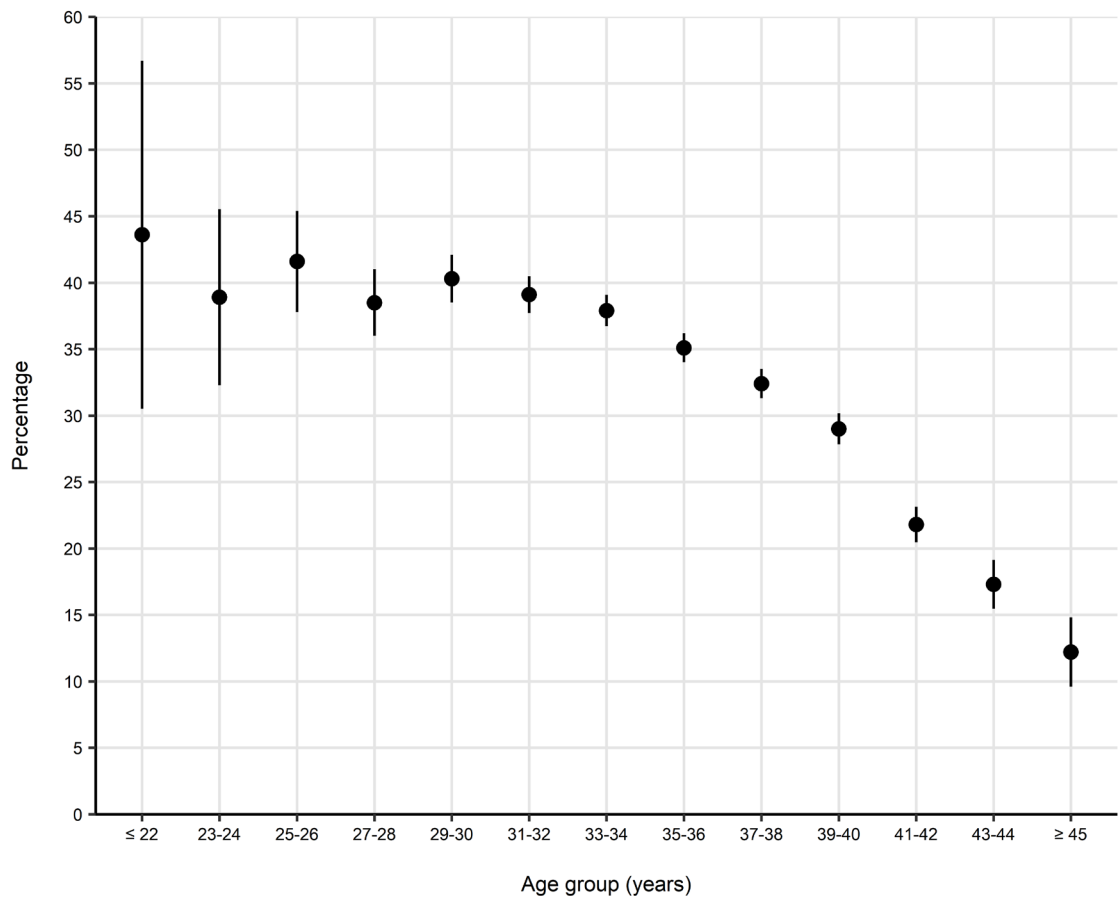


Figure 5: Live birth rate (with 95% confidence intervals) per initiated autologous thaw cycle by female patient’s age at start of a treatment cycle, Australia and New Zealand, 2024

Clinical pregnancies and live births by cause of infertility

Causes of infertility may relate to either the female intended parent or her male partner, both, or may be unexplained. For ART cycles performed in 2024 (ANZARD 3.0), cause of infertility is reported for female-male intended parents undertaking ART to treat infertility. The presence of infertility and the associated clinical diagnosis for female and male intended parents is determined by the treating clinician or ART Unit. As a result, diagnostic definitions may vary among clinicians and ART Units and should be interpreted with considerable caution.

There were 1,151 autologous thaw cycles where ART was performed for reasons other than to treat clinical infertility. Examples include chromosomal testing, human leukocyte antigens (HLA) matching and fertility preservation. Of these 1,151 cycles, 41% resulted in a live birth.

There were 37,615 initiated autologous thaw cycles undertaken by female-male intended parents. Cycles reported with endometriosis cause of infertility had the highest rate of live births per initiated autologous thaw cycle (36.3%) (Table 17).

Table 17: Outcomes of autologous thaw cycles by intended parent cause of infertility, Australia and New Zealand, 2024

Cause of infertility	Number of initiated cycles^(a)	Embryo transfer cycles per initiated cycle (%)	Clinical pregnancies per initiated cycle (%)	Live births per initiated cycle (%)
Tubal disease only	1,071	98.9	41.3	34.2
Endometriosis only	2,011	99.0	43.6	36.3
Other female factors only	11,111	99.1	39.0	30.4
Combined female factors only	2,675	99.3	38.9	30.0
Combined female-male factors	5,061	99.1	42.0	33.6
Male factor infertility only	4,294	99.3	42.4	35.1
Unexplained infertility	10,241	99.0	42.4	34.7
Not stated	0	..	..	..
Treatment not for infertility	1,151	96.2	48.2	41.0
All	37,615	99.0	41.3	33.3

(a) Cycles where at least one embryo was thawed with the intention of performing an embryo transfer.

Of the 37,615 initiated autologous thaw cycles undertaken by female-male intended parents, 9,355 (24.9%) had male factor infertility (Table 18). The cause of male infertility was unexplained in the majority (75.1%) of cycles. Cycles where the primary cause was genetic – Y deletion had the highest live birth rate per initiated cycle (45.9%).

Table 18: Outcomes of autologous thaw cycles by male intended parent primary cause of infertility, Australia and New Zealand, 2024

Primary cause of male infertility	Number of initiated cycles ^(a)	Embryo transfer cycles per initiated cycle (%)	Clinical pregnancies per initiated cycle (%)	Live births per initiated cycle (%)
Spermatogenic failure				
Idiopathic (unexplained)	7,029	99.2	41.9	34.2
Genetic – Klinefelter	68	100.0	48.5	36.8
Genetic – Y deletion	37	100.0	54.1	45.9
Genetic – other aneuploidies, single gene	220	99.5	46.4	41.4
Testis damage – cancer treatment	315	99.4	42.9	34.6
Testis damage – other (e.g. vascular, infective, trauma)	411	98.8	42.6	34.5
Gonadotrophin deficiency	109	99.1	36.7	31.2
Obstruction				
Vasectomy	610	98.7	41.6	31.8
Congenital absence of the vas deferens/cystic fibrosis	125	100.0	48.0	40.8
Obstructive disorder	144	98.6	42.4	32.6
Erectile and ejaculatory				
Erectile dysfunction (incl. psychosexual)	143	99.3	37.1	31.5
Ejaculatory disorders (incl. spinal injury, retrograde and anejaculation)	144	100.0	45.1	34.0
Total	9,355	99.2	42.2	34.3

(a) Cycles where at least one embryo was thawed with the intention of performing an embryo transfer.

Of the 41,841 autologous thaw embryo transfer cycles, 96.6% were SET cycles, 3.4% were DET cycles and <1% (5) cycles transferred three or more embryos. Only female patients aged 40 or older had three or more frozen/thawed embryos transferred.

There were more blastocyst transfer cycles (98.8%) than cleavage-stage embryo transfer cycles (1.2%). The rates of clinical pregnancy and live birth were higher in blastocyst transfer cycles (41.9% and 33.7% respectively) than in cleavage-stage embryo transfer cycles (20.7% and 15.5% respectively) (Table 19). Caution should be taken when comparing clinical pregnancy and live birth rates following cleavage-stage embryo and blastocyst transfer. Patient characteristics and prognoses are different between these groups, and generally fewer embryos are available for transfer and cryopreservation when blastocyst culture is used.

The overall live birth rate per embryo transfer cycle was 33.7% for SET cycles and 28.1% for DET cycles (Table 19). Caution should be taken when comparing live birth rates following SET and DET cycles because patient characteristics and prognoses are different between these groups.

Table 19: Outcomes of autologous thaw embryo transfer cycles by stage of embryo development and number of embryos transferred, Australia and New Zealand, 2024

Stage/outcome of treatment	Cleavage		Blastocyst		Total	
	SET ^(a)	DET ^{(b)(c)}	SET ^(a)	DET ^{(b)(c)}	SET ^(a)	DET ^{(b)(c)}
Embryo transfer cycles	389	134	40,036	1,282	40,425	1,416
Clinical pregnancies	86	22	16,812	496	16,898	518
Live births	65	16	13,539	382	13,604	398
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	<i>22.1</i>	<i>16.4</i>	<i>42.0</i>	<i>38.7</i>	<i>41.8</i>	<i>36.6</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>16.7</i>	<i>11.9</i>	<i>33.8</i>	<i>29.8</i>	<i>33.7</i>	<i>28.1</i>

(a) SET: single embryo transfer.

(b) DET: double embryo transfer.

(c) Includes cycles where three or more embryos were transferred.

Clinical pregnancies and live births by embryo freezing methods

Of the autologous thaw cycles where a blastocyst was transferred, 98.2% used vitrified embryos compared with 84.1% of cleavage-stage embryo transfer cycles. Live birth rates were higher for vitrified embryos compared to slow-frozen embryos regardless of the stage of embryo development (Table 20).

Table 20: Outcomes of autologous thaw embryo transfer cycles by stage of embryo development and embryo freezing methods, Australia and New Zealand, 2024

Stage/outcome of treatment	Stage of embryo development					
	Cleavage stage		Blastocyst		All	
	Slow freezing	Vitrification	Slow freezing	Vitrification	Slow freezing	Vitrification
Embryo transfer cycles	83	440	732	40,586	815	41,026
Clinical pregnancies	14	94	264	17,044	278	17,138
Live births	10	71	201	13,720	211	13,791
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	<i>16.9</i>	<i>21.4</i>	<i>36.1</i>	<i>42.0</i>	<i>34.1</i>	<i>41.8</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>12.0</i>	<i>16.1</i>	<i>27.5</i>	<i>33.8</i>	<i>25.9</i>	<i>33.6</i>

3.4 Donation and recipient cycles

In 2024, donation and recipient cycles accounted for 4.2% (4,754) of all treatment cycles in Australia and New Zealand. There were 957 initiated cycles where the intention was to donate oocytes or embryos to a recipient, consisting of 798 (83.4%) cycles in Australia and 159 (16.6%) in New Zealand.

This chapter does not include surrogacy arrangement cycles. Refer to Chapter 5.

Oocyte/embryo donation cycles

Of the 957 initiated cycles where the intention was to donate oocytes or embryos to a recipient/intended parent(s), 63 (6.6%) cycles were cancelled before OPU. Following OPU, 771 (80.6%) initiated donation cycles resulted in fresh oocytes or embryos being donated, 112 (11.7%) resulted in cryopreserved oocytes or embryos being donated, and 11 (1.1%) did not result in oocytes being retrieved or donated.

The average age of females donating oocytes/embryos was 34 years, with 46% of cycles in females aged 35 or older (Table 21). There were 469 (49%) donation cycles where the recipients were female-male intended parents and 242 (25.3%) donation cycles where the recipients were female-female intended parents (Table 22). There were 76 donation cycles where the recipients were single male or male-male intended parents, for use with a surrogate/gestational carrier, and 60 cycles where oocytes were donated but no intended parents had been assigned to receive the oocytes at the time of the donation cycle.

Table 21: Number of oocyte/embryo donation cycles by donor age, Australia and New Zealand, 2024

Age group (years) ^(a)	Number of initiated cycles ^(b)	Cycles with OPU performed (%)	Cycles with fresh oocyte(s)/embryo(s) donated ^(c) (%)	Cycles with cryopreserved oocyte(s)/embryo(s) donated (%)
< 30	166	94.6	83.1	10.8
30–34	351	95.2	82.3	12.5
35–39	349	92.3	78.5	12.3
≥ 40	91	89.0	76.9	7.7
Total	957	93.4	80.6	11.7

(a) Donor's age at the time of their OPU.

(b) FSH-stimulated was administered or last menstrual period occurred.

(c) Includes 9 cycles where oocytes/embryos were also cryopreserved.

Table 22: Number of oocyte/embryo donation cycles to intended parents, Australia and New Zealand, 2024

Intended parents	Number of initiated cycles ^(a)	Cycles with OPU performed (%)	Cycles with fresh oocyte(s)/embryo(s) donated (%) ^(b)	Cycles with cryopreserved oocyte(s)/embryo(s) donated (%)
Female-male couple	469	93.4	91.5	1.1
Single female	110	94.5	90.0	2.7
Female-female couple	242	94.2	66.1	26.4
Single male	6	100.0	100.0	0.0
Male-male couple	70	95.7	94.3	1.4
Unknown intended parents	60	85.0	18.3	65.0
Total	957	93.4	80.6	11.7

(a) FSH-stimulated was administered or last menstrual period occurred.

(b) Includes 9 cycles where oocytes/embryos were also cryopreserved.

Oocyte/embryo recipient cycles

There were 3,797 oocyte/embryo recipient cycles in 2024, comprising 3,433 (90.4%) cycles in Australia and 364 (9.6%) cycles in New Zealand. Of these, 66% (2,506) were oocyte recipient cycles and 34% (1,291) were embryo recipient cycles (Table 23). The average age of women undertaking an oocyte/embryo recipient cycle was 40 years. One quarter (955) of oocyte/embryo recipient cycles involved one female intended parent providing oocytes/embryos to a female partner who is also an intended parent (commonly known as reciprocal IVF).

Progression of oocyte/embryo recipient cycles

Figure 6 shows the main stages of oocyte/embryo recipient cycles and the treatment outcomes. Of the 3,797 oocyte/embryo recipient cycles undertaken in 2024, 91.1% resulted in an embryo transfer, 35.4% resulted in a clinical pregnancy and 28.4% in a live birth.

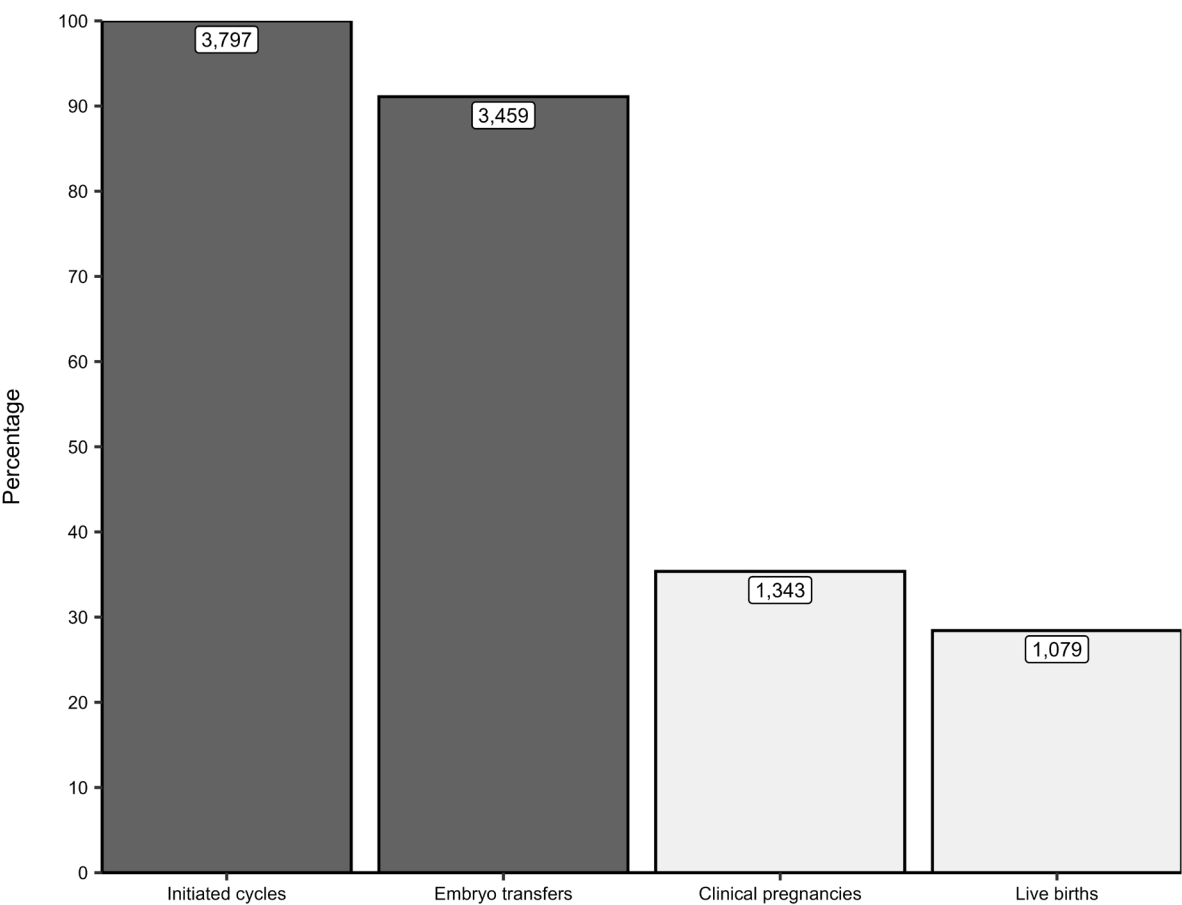


Figure 6: Progression of fresh and thaw oocyte/embryo recipient cycles, Australia and New Zealand, 2024

Clinical pregnancies and live births from oocyte/embryo recipient cycles by type of recipient cycle

Of the 3,797 oocyte/embryo recipient cycles, 970 (25.5%) involved fresh embryos created using fresh or frozen/thawed eggs, and 2,827 (74.5%) involved frozen/thawed embryos. The overall live birth rate per initiated cycle was 25.6% for oocyte recipient cycles and 33.8% for embryo recipient cycles (Table 23).

Table 23: Outcomes of oocyte/embryo recipient cycles by treatment type, Australia and New Zealand, 2024

Stage/outcome of treatment	Oocyte recipient			Embryo recipient		All
	Fresh embryos created using fresh eggs	Fresh embryos created using frozen/thawed eggs	Frozen/thaw embryos created using fresh or frozen donated eggs	Fresh embryos	Frozen/thaw embryos	
Initiated cycles ^(a)	362	590	1,554	18	1,273	3,797
Embryo transfer cycles	158	485	1,539	18	1,259	3,459
Clinical pregnancies	69	200	554	11	509	1,343
Live births	53	159	430	11	426	1,079
Live births per initiated cycle (%)	14.6	26.9	27.7	61.1	33.5	28.4
Live births per embryo transfer cycle (%)	33.5	32.8	27.9	61.1	33.8	31.2
Live births per clinical pregnancy (%)	76.8	79.5	77.6	100.0	83.7	80.3

(a) Cycles where oocytes or embryos were received.

Clinical pregnancies and live births from oocyte/embryo recipient cycles by recipients' age

The clinical pregnancy and live birth rates of recipient cycles varied by recipients' age. The overall live birth rate per initiated recipient cycle was 28.4%, varying between 22.8% and 36.6% by recipients' age (Table 24).

Table 24: Outcomes of oocyte/embryo recipient cycles by recipient age, Australia and New Zealand, 2024

Stage/outcome of treatment	Age group (years) ^(a)					All
	< 30	30–34	35–39	40–44	≥ 45	
Initiated cycles ^(b)	192	590	755	1,136	1,124	3,797
Embryo transfer cycles	177	538	688	1,033	1,023	3,459
Clinical pregnancies	83	251	263	406	340	1,343
Live births	67	216	212	328	256	1,079
Live births per initiated cycle (%)	34.9	36.6	28.1	28.9	22.8	28.4
Live births per embryo transfer cycle (%)	37.9	40.1	30.8	31.8	25.0	31.2
Live births per clinical pregnancy (%)	80.7	86.1	80.6	80.8	75.3	80.3

(a) Recipient age at start of a treatment cycle.

(b) Cycles where oocytes or embryos were received.

Clinical pregnancies and live births from oocyte/embryo recipient cycles by donors' age

The clinical pregnancy and live birth rates of recipient cycles varied by donors' age. The highest live birth rate per initiated recipient cycle was in donors aged 30-34 years (31.4%). The live birth rate per initiated recipient cycle in which the donor's age was 40 years or more was 19.6% (Table 25).

Table 25: Outcomes of oocyte/embryo recipient cycles by donor age, Australia and New Zealand, 2024

Stage/outcome of treatment	Age group (years) ^(a)				All ^(b)
	< 30	30–34	35–39	≥ 40	
Initiated cycles ^(c)	1,428	1,183	965	199	3,797
Embryo transfers	1,318	1,084	862	179	3,459
Clinical pregnancies	514	452	316	56	1,343
Live births	421	372	242	39	1,079
<i>Live births per initiated cycle (%)</i>	<i>29.5</i>	<i>31.4</i>	<i>25.1</i>	<i>19.6</i>	<i>28.4</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>31.9</i>	<i>34.3</i>	<i>28.1</i>	<i>21.8</i>	<i>31.2</i>
<i>Live births per clinical pregnancy (%)</i>	<i>81.9</i>	<i>82.3</i>	<i>76.6</i>	<i>69.6</i>	<i>80.3</i>

(a) Donor age at the time of their OPU.

(b) Includes 22 cycles where the donor's age was unknown.

(c) Cycles where oocytes or embryos were received.

Clinical pregnancies and live births from oocyte/embryo recipient cycles by number of embryos transferred

Of the 3,459 oocyte/embryo recipient cycles where embryos were transferred, 96.1% were SET, 3.9% were DET and there were no cycles where three or more embryos were transferred.

Overall, the live birth rate per oocyte/embryo recipient cycle where embryos were transferred was 27.2% in DET cycles compared with 31.4% in SET cycles (Table 26).

Caution should be taken when comparing live birth rates following SET and DET cycles because patient characteristics and prognoses are different between these groups.

Table 26: Outcomes of oocyte/embryo recipient embryo transfer cycles by stage of embryo development and number of embryos transferred, Australia and New Zealand, 2024

Stage/outcome of treatment	Cleavage		Blastocyst		All	
	SET ^(a)	DET ^(b)	SET ^(a)	DET ^(b)	SET ^(a)	DET ^(b)
Embryo transfer cycles	236	48	3,087	88	3,323	136
Clinical pregnancies	45	9	1,251	38	1,296	47
Live births	37	7	1,005	30	1,042	37
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	<i>19.1</i>	<i>18.8</i>	<i>40.5</i>	<i>43.2</i>	<i>39.0</i>	<i>34.6</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>15.7</i>	<i>14.6</i>	<i>32.6</i>	<i>34.1</i>	<i>31.4</i>	<i>27.2</i>

(a) SET: single embryo transfer.

(b) DET: double embryo transfer.

Clinical pregnancies and live births from oocyte/embryo recipient cycles by stage of embryo development and embryo freezing methods

The majority (99.2%) of oocyte/embryo recipient thaw cycles where a blastocyst was transferred used vitrified embryos, compared with 90.9% of cycles where a cleavage-stage embryo was transferred. Overall, the live birth rate per embryo transfer was higher for the transfer of vitrified embryos (30.6%) compared to slow-frozen embryos (28.2%) (Table 27).

Table 27: Outcomes of oocyte/embryo recipient thaw cycles by stage of embryo development and embryo freezing methods, Australia and New Zealand, 2024

Stage/outcome of treatment	Stage of embryo development					
	Cleavage embryo		Blastocyst		All	
	Slow freezing	Vitrification	Slow freezing	Vitrification	Slow freezing	Vitrification
Embryo transfer cycles	19	190	20	2,569	39	2,759
Clinical pregnancies	4	34	8	1,017	12	1,051
Live births	3	27	8	818	11	845
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	<i>21.1</i>	<i>17.9</i>	<i>40.0</i>	<i>39.6</i>	<i>30.8</i>	<i>38.1</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>15.8</i>	<i>14.2</i>	<i>40.0</i>	<i>31.8</i>	<i>28.2</i>	<i>30.6</i>

4 Pregnancy and birth outcomes following autologous and recipient embryo transfer cycles in 2024

4.1 Clinical pregnancies

Clinical pregnancies overview

There were 64,676 autologous and recipient embryo transfer cycles undertaken in Australian and New Zealand ART Units, of which 25,275 (39.1%) resulted in a clinical pregnancy. Of these clinical pregnancies, 22,628 (89.5%) were reported from ART Units in Australia and 2,647 (10.5%) from New Zealand Units. Clinical pregnancies that resulted from other ART treatment cycles are described in Chapters 5 and 6.

Of the 25,275 clinical pregnancies, 80.5% resulted in a birth and 19% resulted in early pregnancy loss (less than 20 weeks gestation and less than 400 grams birthweight). An early pregnancy loss may result from miscarriage (including where no fetal heart is detected), reduction or termination, or ectopic or heterotopic pregnancy (Table 28). The outcomes of 118 (0.5%) clinical pregnancies were not known because women could not be followed up or contacted by ART Units.

Early pregnancy loss

There were 4,809 early pregnancy losses (less than 20 weeks gestation and less than 400 grams birthweight) following embryo transfers, representing 19% of clinical pregnancies (Table 28). There was a larger proportion of early pregnancy loss following double embryo transfer cycles (26.2%) than single embryo transfer cycles (18.8%).

Table 28: Early pregnancy loss by pregnancy outcome and maternal age and number of embryos transferred, Australia and New Zealand, 2024

Pregnancy outcome	Age group (years) ^(a)							
	< 35		35–39		≥ 40		All	
	One embryo	Two embryos ^(b)	One embryo	Two embryos ^(b)	One embryo	Two embryos ^(b)	One embryo	Two embryos ^(b)
n								
Early pregnancy loss	1,526	30	1,922	66	1,128	137	4,576	233
Miscarriage	1,373	28	1,735	58	1,056	129	4,164	215
Reduction or termination	67	2	109	4	44	6	220	12
Ectopic or heterotopic pregnancy	86	0	78	4	28	2	192	6
Birth	8,958	219	7,854	251	2,882	184	19,694	654
Not stated	49	2	40	0	25	2	114	4
Total pregnancies	10,533	251	9,816	317	4,035	323	24,384	891
%								
Early pregnancy loss	14.5	12.0	19.6	20.8	28.0	42.4	18.8	26.2
Miscarriage	13.0	11.2	17.7	18.3	26.2	39.9	17.1	24.1
Reduction or termination	0.6	0.8	1.1	1.3	1.1	1.9	0.9	1.3
Ectopic or heterotopic pregnancy	0.8	0.0	0.8	1.3	0.7	0.6	0.8	0.7
Birth	85.0	87.3	80.0	79.2	71.4	57.0	80.8	73.4
Not stated	0.5	0.8	0.4	0.0	0.6	0.6	0.5	0.4
Total pregnancies	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Age at start of treatment cycle.

(b) Includes three or more embryos.

4.2 Births

There were 20,348 female patients who gave birth to at least one baby of 20 weeks or more gestation or at least 400 grams birthweight following embryo transfer cycles. Of these, 98.8% (20,112) gave birth to at least one liveborn baby (live birth). The proportion of term live births (≥ 37 weeks) among all births was higher for autologous cycles than for oocyte/embryo recipient cycles (Table 29). The overall proportion of term live births following autologous and recipient cycles was 88.6% which is slightly lower than the proportion of term live births in Australia (91%) (AIHW 2025).

Table 29: Births by birth outcome and treatment type, Australia and New Zealand, 2024

Birth outcome	Autologous				Oocyte /embryo recipient		All	
	Fresh		Thaw					
	n	%	n	%				
Live birth	5,031	98.7	14,002	98.8	1,079	99.5	20,112	98.8
< 37 weeks	531	10.4	1,413	10.0	131	12.1	2,075	10.2
≥ 37 weeks	4,500	88.3	12,589	88.9	948	87.5	18,037	88.6
Gestational age unknown	0	0.0	0	0.0	0	0.0	0	0.0
Stillbirth ^(a)	47	0.9	111	0.8	5	0.5	163	0.8
Not stated	20	0.4	53	0.4	0	0.0	73	0.4
Total	5,098	100.0	14,166	100.0	1,084	100.0	20,348	100.0

(a) Stillbirth is reported by patients to ART Unit staff. These data are not official vital statistics.

Births by gestation and maternal age and number of embryos transferred

Of the 20,348 births in 2024, 2.3% (459) were multiple births (Table 30), a slight increase from 2023 (2.2%) (Kotevski et al. 2025). By comparison, the proportion of multiple births in Australia from all conceptions in 2023 was 1.5%, corresponding to 4,156 multiple births (AIHW 2025).

Twin births accounted for 2.2% of births following embryo transfer cycles in 2024. Of the 451 twin births, 33.3% resulted from the transfer of two embryos and 66.7% from the transfer of one embryo. Of births following DET, the proportion of multiple births was higher for women aged under 35 (31.8%) compared with females aged 35–39 (25.7%) and females aged 40 or older (14.3%) (Table 30).

The average age of female patients at the time of birth who conceived using ART was 36 years. This is five years older than the average age (31.3 years) of all women who gave birth in Australia in 2023 (AIHW 2025).

Table 30: Births by gestation and maternal age and number of embryos transferred, Australia and New Zealand, 2024

Gestation	Age group (years) ^(a)								Total
	< 35		35–39		≥ 40		All		
	One embryo	Two embryos ^(b)	One embryo	Two embryos ^(b)	One embryo	Two embryos ^(b)	One embryo	Two embryos ^(b)	
	n								
Singleton	7,475	131	8,195	182	3,720	186	19,390	499	19,889
Multiple	138	61	130	63	36	31	304	155	459
Twin	136	60	129	61	36	29	301	150	451
Higher order multiple	2	1	1	2	0	2	3	5	8
Total	7,613	192	8,325	245	3,756	217	19,694	654	20,348
	%								
Singleton	98.2	68.2	98.4	74.3	99.0	85.7	98.5	76.3	97.7
Multiple	1.8	31.8	1.6	25.7	1.0	14.3	1.5	23.7	2.3
Twin	1.8	31.3	1.5	24.9	1.0	13.4	1.5	22.9	2.2
Higher order multiple	0.0	0.5	0.0	0.8	0.0	0.9	0.0	0.8	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Age at time of birth.

(b) Includes three or more embryos.

Caesarean section

More than half (58.6%) of births following embryo transfer cycles were by caesarean section (Table 31). The high rate of caesarean section following ART treatment may be related to several factors, including that on average, female patients receiving ART treatment were five years older than women who gave birth in Australia in 2023 (AIHW 2025) and that there were more multiple births following ART treatment.

The caesarean section rate increased with advancing female age at birth: 46% of females aged less than 30 had a caesarean section compared with 81.3% of females aged 45 or older (Table 31).

The caesarean section rate varied by plurality, with 58% for singleton births and 84.1% for multiple births (twins and triplets). The caesarean section rate for women having a baby in Australia in 2023 was 40.6% (AIHW 2025).

Table 31: Births by method of birth and maternal age, Australia and New Zealand, 2024

Method of birth	Age group (years) ^(a)					Total
	< 30	30–34	35–39	40–44	≥ 45	
n						
Caesarean section	707	3,349	5,049	2,438	386	11,929
Not stated	16	74	125	56	10	281
Other	814	2,845	3,396	1,004	79	8,138
Total	1,537	6,268	8,570	3,498	475	20,348
%						
Caesarean section	46.0	53.4	58.9	69.7	81.3	58.6
Not stated	1.0	1.2	1.5	1.6	2.1	1.4
Other	53.0	45.4	39.6	28.7	16.6	40.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Age at time of birth.

4.3 Perinatal outcomes of babies

The babies described in this section were those born at 20 weeks or more gestational age or at least 400 grams birthweight following autologous and recipient embryo transfer cycles. The outcomes of babies born from other ART cycles are described in Chapter 5.

There were 20,815 babies born to females who had autologous and recipient embryo transfer cycles. Of these, 89.6% (18,658) were reported from ART Units in Australia and 10.4% (2,157) from ART Units in New Zealand. Of the 20,815 babies, 95.6% were singletons, 4.3% were twins and < 1% were triplets. There were 20,565 liveborn babies. The birth status was not reported for 74 (0.4%) babies.

Sex distribution in liveborn babies

There were 10,553 (51.3%) liveborn male babies, 9,888 (48.1%) liveborn female babies and 124 (0.6%) liveborn babies where sex was not stated. The sex distribution in liveborn babies has remained consistent over the last 15 years. For the 20,441 liveborn babies where the baby's sex was stated, the sex ratio was 106.7 male babies for every 100 female babies. The sex ratio for all Australian liveborn babies born in 2023 was 105.3 male liveborn babies per 100 female liveborn babies (AIHW 2025).

Liveborn babies following cleavage-stage embryo transfers had a sex ratio of 98.9 male babies for every 100 female babies. Liveborn babies following blastocyst transfers had a sex ratio of 106.9 male babies for every 100 female babies.

Gestational age of babies

The overall proportions of preterm (less than 37 weeks gestation) singletons (9.5%) and twins (75.8%) born to women who had embryo transfer cycles in 2024 were higher than the overall proportions of preterm singletons and twins born in Australia in 2023 (6.7% and 62.4% respectively) (AIHW 2025).

The median gestational age of babies born following autologous and recipient embryo transfer cycles was 38 weeks (Table 32). This is lower than the median gestational age of 39 weeks for all babies born in Australia in 2023 (AIHW 2025).

Following autologous and recipient embryo transfer cycles, there were 12.4% of babies born preterm, which is higher than the proportion of preterm babies born in Australia in 2023 (8.4%) (AIHW 2025).

Table 32: Babies by gestational age and plurality, Australia and New Zealand, 2024

Gestational age (weeks)	Singletons		Twins		Higher order multiples		Total	
<i>Median</i>	38		35		30		38	
	n	%	n	%	n	%	n	%
≤ 27	239	1.2	36	4.0	9	37.5	284	1.4
28–31	174	0.9	66	7.3	0	0.0	240	1.2
32–36	1,471	7.4	582	64.5	12	50.0	2,065	9.9
≤ 36	1,884	9.5	684	75.8	21	87.5	2,589	12.4
≥ 37	18,005	90.5	218	24.2	3	12.5	18,226	87.6
Not stated	0	0.0	0	0.0	0	0.0	0	0.0
Total	19,889	100.0	902	100.0	24	100.0	20,815	100.0

Birthweight of liveborn babies

The average birthweight for liveborn babies to women who had autologous and recipient embryo transfer cycles was 3,259 grams. This is comparable to the average birthweight of all liveborn babies (3,333 grams) in Australia in 2023 (AIHW 2025). Less than one in ten (9%) of the 20,565 liveborn babies were low birthweight (less than 2,500 grams) (Table 33).

The average birthweight was 3,304 grams and 2,315 grams for liveborn ART singletons and twins respectively. Low birthweight was reported for 8.7% of liveborn singletons following fresh cycles and 6.1% of liveborn singletons following thaw cycles. For ART twins, 60.7% were reported as low birthweight in comparison with 52.6% of twin births in Australia in 2023 (AIHW 2025).

Table 33: Liveborn babies by birthweight group and plurality, Australia and New Zealand, 2024

Birthweight (grams)	Fresh			Thaw		
	Singletons	Twins	Higher order multiples	Singletons	Twins	Higher order multiples
	n					
< 1,500	68	28	3	152	57	4
1,500–2,499	377	137	6	740	280	8
2,500–3,499	2,983	86	0	7,656	267	0
3,500–4,500	1,547	5	0	5,493	8	0
> 4,500	31	0	0	188	1	0
Not stated	113	5	0	312	10	0
Total	5,119	261	9	14,541	623	12
	%					
< 1,500	1.3	10.7	33.3	1.0	9.1	33.3
1,500–2,499	7.4	52.5	66.7	5.1	44.9	66.7
2,500–3,499	58.3	33.0	0.0	52.7	42.9	0.0
3,500–4,500	30.2	1.9	0.0	37.8	1.3	0.0
> 4,500	0.6	0.0	0.0	1.3	0.2	0.0
Not stated	2.2	1.9	0.0	2.1	1.6	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Perinatal mortality

Perinatal mortality is a summary measure of stillbirths and neonatal deaths. A neonatal death is defined as the death of liveborn infants within 28 days of birth.

There were 224 reported perinatal deaths, including 176 stillbirths and 48 neonatal deaths. The perinatal mortality rate in 2024 was 10.8 deaths per 1,000 births (Table 34), which was slightly lower than the rate of 11 per 1,000 births for all births in Australia in 2023 (AIHW 2025). Singletons had a markedly lower perinatal mortality rate (9.7 deaths per 1,000 births) compared with multiples (34.6 deaths per 1,000 births) (Table 34).

These data should be interpreted with caution because of the small numbers and potential variability in case reporting, which is compounded by the self-reported nature of ART birth outcome data. In 2024, information relating to birth outcomes was not stated for 73 births.

Table 34: Perinatal mortality of babies by type of death and plurality, Australia and New Zealand, 2024

Plurality	All births	Live births	Stillbirths ^(a)		Neonatal deaths ^(b)		Perinatal deaths ^{(a)(b)}	
			n	Rate ^{(c)(e)}	n	Rate ^{(d)(f)}	n	Rate ^{(c)(g)}
Singletons	19,889	19,660	157	7.9	35	1.8	192	9.7
Multiples	926	905	19	20.5	13	14.4	32	34.6
Total	20,815	20,565	176	8.5	48	2.3	224	10.8

(a) Stillbirth is reported by patients to ART Unit staff. These data are not official vital statistics.

(b) Neonatal deaths are reported by patients to ART Unit staff. These data are not official vital statistics.

(c) Stillbirth and perinatal mortality rates were calculated using all births (live births and stillbirths) as the denominator.

(d) Neonatal death rate was calculated using live births as the denominator.

(e) Stillbirths per 1,000 births.

(f) Neonatal deaths per 1,000 live births.

(g) Perinatal deaths per 1,000 births.

Note: The birth status was not adequately reported for 73 births.

5 Other cycle types, procedures and treatment complications in 2024

5.1 Surrogacy arrangements

A surrogacy arrangement is an arrangement between the intended parent(s) and a female patient, known as the 'gestational carrier' or 'surrogate'. The surrogate/gestational carrier agrees to carry a child for another person or couple, known as the 'intended parent(s)', with the intention that the child will be raised by the intended parent(s). The oocytes and/or sperm used to create the embryo(s) can be either from the intended parents or from a donor(s).

There were 370 surrogacy arrangement cycles in 2024, including 271 surrogate/gestational carrier cycles and 99 commissioning cycles. Commissioning cycles include a variety of cycle types involved in the provision of oocytes or embryos by either the intended parents or donors. Among the 271 surrogate/gestational carrier cycles, all resulted in an embryo transfer, of which all were single embryo transfers. Of the embryo transfer cycles, 114 (42.1%) resulted in a clinical pregnancy and 102 (37.6%) resulted in a live birth (Table 35).

Table 35: Outcomes of surrogate/gestational carrier cycles by number of embryos transferred, Australia and New Zealand, 2024

Outcome	SET	DET	Total
Embryo transfer cycles	271	0	271
Clinical pregnancies	114	..	114
Live births	102	..	102
<i>Singletons</i>	101	..	101
<i>Multiples</i>	1	..	1
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	42.1	..	42.1
<i>Live births per embryo transfer cycle (%)</i>	37.6	..	37.6
<i>Live births per clinical pregnancy (%)</i>	89.5	..	89.5

5.2 Fertility preservation

In ANZARD, the term fertility preservation refers to a range of techniques intended to cryopreserve oocytes or embryos to preserve reproductive capacity. Fertility preservation is performed for medical reasons or non-medical reasons. Where it is undertaken for non-medical reasons, the intention is not to use oocyte(s) or embryo(s) within 12 months.

There were 8,776 initiated autologous cycles performed for fertility preservation (Table 36), representing one in seven initiated autologous fresh cycles. Of these, over one-third (36.5%) were reported as being for non-medical reasons (e.g. not having a partner).

Of the 8,776 initiated autologous cycles for fertility preservation, 7,912 (90.2%) resulted in all suitable oocytes or embryos being cryopreserved. The majority (93.4%) of these cycles were for oocyte cryopreservation (7,388).

Table 36: Number of autologous fresh fertility preservation cycles for female patients by age and treatment type, Australia and New Zealand, 2024

Reason for fertility preservation	Age group (years) ^(a)			All
	< 35	35–39	≥ 40	
Medical reason – cancer diagnosis	480	178	46	704
Medical reason – other	2,472	1,923	472	4,867
Non-medical reason	1,499	1,488	218	3,205
Total	4,451	3,589	736	8,776

(e) Age at start of a treatment cycle.

5.3 Preimplantation genetic testing

Preimplantation genetic testing (PGT) is a procedure where DNA from embryos is tested for chromosomal disorders or genetic diseases before embryo transfer. This term includes PGT for aneuploidies (PGT-A), PGT for monogenic/single gene defects (PGT-M) and PGT for chromosomal structural rearrangements (PGT-SR).

There were 11,007 autologous, recipient, surrogacy and lab-only cycles where PGT was performed in 2024 (Table 37), representing 9.7% of these cycles (Table 1).

Of the 9,856 cycles where fresh embryos were created and PGT was performed:

- 85.7% (8,445) resulted in all suitable embryos being frozen (freeze-all cycles),
- 0.2% (18) had no embryos frozen or transferred,
- 14.1% (1,390) had an embryo transfer where the embryo transferred did not undergo PGT (not all embryos were tested), and
- <0.1% (3) had an embryo transfer where the PGT-tested embryo was transferred.

Of the 312 cycles where cryopreserved embryos were thawed and PGT was performed:

- 28.8% (90) had concurrent OPU, freezing of embryos, and no embryo transfer,
- 2.6% (8) had embryos refrozen and no embryo transfer,
- 0.3% (1) had no embryos refrozen and no embryo transfer, and
- 68.3% (213) had an embryo transfer.

Table 37: Number of autologous, recipient, surrogacy and lab-only cycles with PGT performed in that cycle, by main reason for PGT, Australia and New Zealand, 2024

Indication	Fresh embryo/s	Frozen embryo/s	Lab-only cycles	Total
Aneuploidy	8,055	246	693	8,994
Single gene variation	1,128	45	84	1,257
Chromosomal structural arrangements	587	21	37	645
Other	86	0	25	111
Total	9,856	312	839	11,007

Almost one third of cycles involving PGT, were performed in women aged 40 years or more (28.3%) (Table 38). It is important to note that embryos thawed in a thaw or lab-only cycle were created in an earlier initiated fresh cycle; therefore, a woman's age at the start of a thaw or lab-only cycle is older than her age when the embryo was created.

Table 38: Number of autologous, recipient, surrogacy and lab-only cycles with PGT performed in that cycle, by female intended parent age, Australia and New Zealand, 2024

Female age group (years) ^(a)	Fresh embryo/s	Frozen embryo/s	Lab-only cycles	Total
< 30	439	17	40	496
30–34	2,161	64	165	2,390
35–39	4,519	144	307	4,970
40–44	2,622	83	241	2,946
≥ 45	115	4	36	155
Total	9,856	312	789	10,957

(a) Female age at start of cycle. Table 38 excludes cycles where there was no female intended parent.

There were 9,346 autologous, recipient and gestational carrier cycles initiated in 2024 where PGT embryos were transferred. Of these, 51.8% resulted in a clinical pregnancy and 44% resulted in a live birth (Table 39). The PGT procedure could have occurred in 2024 or previous years for thaw cycles.

Table 39: Stage/outcome of autologous, recipient and surrogacy cycles with PGT performed, by treatment type, Australia and New Zealand, 2024

Stage/Outcome of PGT-tested embryos	Fresh	Frozen	Total
Embryo transfers	3	9,343	9,346
Clinical pregnancies	0	4,839	4,839
Live births	..	4,111	4,111
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	..	51.8	51.8
<i>Live births per embryo transfer cycle (%)</i>	..	44.0	44.0

Over two thirds (68.7%) of the embryo transfer cycles where PGT embryos were transferred were undertaken in women aged 35–44 years. The highest live birth rate per embryo transfer cycle was in women aged less than 30 years (47%) followed by women aged 30–34 years (44.3%) (Table 40). It is important to note that embryos thawed in a thaw cycle were created in an earlier initiated fresh cycle; therefore, a woman's age at the start of a thaw cycle may be older than her age when the embryo was created.

Table 40: Stage/outcome of autologous, recipient and surrogacy cycles with PGT performed, by female patient age, Australia and New Zealand, 2024

Stage/Outcome of PGT-tested embryos	Age group (in years) ^(a)					Total
	< 30	30–34	35–39	40–44	≥ 45	
Embryo transfers	457	2,299	4,310	2,115	165	9,346
Clinical pregnancies	251	1,183	2,256	1,082	67	4,839
Live births	215	1,018	1,931	897	50	4,111
<i>Clinical pregnancies per embryo transfer cycle (%)</i>	<i>54.9</i>	<i>51.5</i>	<i>52.3</i>	<i>51.2</i>	<i>40.6</i>	<i>51.8</i>
<i>Live births per embryo transfer cycle (%)</i>	<i>47.0</i>	<i>44.3</i>	<i>44.8</i>	<i>42.4</i>	<i>30.3</i>	<i>44.0</i>

(a) Age at start of treatment cycle.

5.4 Assisted hatching

Assisted hatching is an ART procedure where the outer layer of the embryo, the zona pellucida, is either thinned or perforated in the laboratory to aid 'hatching' of the embryo.

In 2024, assisted hatching was reported in 5,373 autologous and recipient cycles where PGT was not performed. Of these, 2,320 (43.2%) were fresh cycles and 3,053 (56.8%) were thaw cycles. Embryos were transferred in 4,276 (79.6%) cycles, resulting in 1,748 (32.5%) clinical pregnancies and 1,372 (25.5%) live births. There were 1,396 babies born following autologous and recipient cycles where assisted hatching was performed, including 1,350 singletons, 20 twins, and 2 triplets.

6 Donor sperm insemination cycles in 2024

Donor sperm insemination (DI) covers a range of techniques of placing sperm into the female genital tract using donated sperm from a male who is not an intended parent. The information presented in this section only describes DI cycles undertaken in ART Units in Australia and New Zealand and does not include DI undertaken outside of this setting.

Information on ART cycles using donated sperm are presented in Supplementary Tables which accompany this report.

Number and outcomes of DI cycles

In 2024, there were 2,510 DI cycles reported. Of all DI cycles, 16.9% resulted in a clinical pregnancy and 14.1% resulted in a live birth (Table 41). The multiple birth rate from births following DI cycles was 5.1%.

The average age of women who had a DI cycle was 35 years. The clinical pregnancy and live birth rates decreased with age (Table 41).

Table 41: Outcomes of DI cycles by female patient age, Australia and New Zealand, 2024

Stage/outcome of treatment	Age group (years) ^(a)				Total
	< 30	30–34	35–39	≥ 40	
DI cycles	331	878	945	356	2,510
Clinical pregnancies	72	175	147	29	423
Live births	65	153	117	19	354
<i>Clinical pregnancies per DI cycle (%)</i>	<i>21.8</i>	<i>19.9</i>	<i>15.6</i>	<i>8.1</i>	<i>16.9</i>
<i>Live births per DI cycle (%)</i>	<i>19.6</i>	<i>17.4</i>	<i>12.4</i>	<i>5.3</i>	<i>14.1</i>
<i>Live births per clinical pregnancy (%)</i>	<i>90.3</i>	<i>87.4</i>	<i>79.6</i>	<i>65.5</i>	<i>83.7</i>

(a) Age at start of a treatment cycle.

Clinical pregnancies following DI cycles

Of the 423 clinical pregnancies following DI cycles, 84.2% resulted in a birth and 15.8% ended in early pregnancy loss (including 14.9% miscarriages, 0.5% ectopic/heterotopic pregnancies, and 0.5% reductions/termination). Of the 356 births, 338 (94.9%) were singleton births, and 18 (5.1%) were twin births.

Perinatal outcomes of babies following DI cycles

There were 374 babies born to females who had DI treatment. Of these, 370 were liveborn, 2 were stillborn and 2 were neonatal deaths. Of the liveborn babies, 35 (9.5%) were born preterm (less than 37 weeks gestation). The mean birthweight of liveborn babies following DI treatment was 3,289 grams. This was higher than the mean birthweight of liveborn babies following autologous and recipient embryo transfer cycles (3,259 grams). Thirty-four liveborn babies (9.2%) were born with low birthweight (less than 2,500 grams).

7 Trends in ART treatment and outcomes: 2020–2024

This section includes autologous cycles, donation/recipient cycles, surrogacy cycles and GIFT cycles undertaken in Australia and New Zealand from 2020 to 2024. It does not include DI cycles or lab-only cycles.

ART treatment and outcomes

In 2024, there were 112,220 initiated ART cycles in Australia and New Zealand. This represents a 1.1% increase from 2023 (Table 42 and Table 43).

The proportion of initiated fresh cycles reaching embryo transfer decreased from 42.6% in 2020 to 30% in 2024 partly due to changes in clinical practice, including an increase in the proportion of freeze-all cycles. Since 2020, there has been an average 13.8% yearly increase in the number of freeze-all cycles (Table 42).

Between 2020 and 2024, the live birth rate per OPU cycle (excluding freeze-all cycles) has decreased from 18.7% in 2020 to 17.8% in 2024 (Table 42). The live birth rate per embryo transfer cycle has increased from 25.4% in 2020 to 26.2% in 2024.

Table 42: Number of fresh cycles by stage/outcome of treatment, Australia and New Zealand, 2020–2024

Stage/outcome of treatment	2020	2021	2022	2023	2024
Initiated cycles ^(a)	56,691	67,632	65,113	67,395	66,864
Cycles with OPU ^(b)	50,694	59,629	56,752	59,820	59,231
Oocyte freeze-all cycles ^(c)	4,179	6,460	7,124	9,269	9,119
Embryo freeze-all cycles ^(c)	13,760	16,249	16,975	18,841	20,637
Embryo transfers	24,154	26,771	23,001	21,877	20,039
Clinical pregnancies	7,906	8,772	7,606	7,302	6,797
Live births	6,138	6,833	5,968	5,630	5,254
Clinical pregnancies per initiated cycle (%)	13.9	13.0	11.7	10.8	10.2
Clinical pregnancies per OPU cycle (excluding freeze-all) (%) ^(d)	24.1	23.8	23.3	23.0	23.1
Clinical pregnancy per embryo transfer (%)	32.7	32.8	33.1	33.4	33.9
Live births per initiated cycle (%)	10.8	10.1	9.2	8.4	7.9
Live births per OPU cycle (excluding freeze-all) (%) ^(e)	18.7	18.5	18.3	17.8	17.8
Live births per embryo transfer (%)	25.4	25.5	25.9	25.7	26.2

(a) Included autologous cycles, oocyte donation cycles, oocyte/embryo recipient cycles, GIFT cycles and surrogacy cycles.

(b) Cycles with OPU include cycles where no oocytes were collected during the procedure.

(c) Freeze-all cycles are ART treatment cycles where all oocytes or embryos are cryopreserved for potential future use.

(d) Clinical pregnancies per OPU cycle (excluding freeze-all) is calculated using clinical pregnancies as the numerator and OPU cycles minus freeze-all cycles as the denominator.

(e) Live births per OPU cycle (excluding freeze-all) is calculated using live births as the numerator and OPU cycles minus freeze-all cycles as the denominator.

There were 45,356 initiated thaw cycles undertaken in 2024, an increase of 4% since 2023 (Table 43). The live birth rate per initiated thaw cycle increased from 30.6% in 2020 to 33% in 2024 (Table 43).

Table 43: Number of thaw cycles by stage/outcome of treatment, Australia and New Zealand, 2020–2024

Stage/outcome of treatment	2020	2021	2022	2023	2024
Initiated cycles ^(a)	37,649	42,208	42,203	43,560	45,356
Embryo transfers	36,964	41,397	41,617	43,080	44,908
Clinical pregnancies	14,248	16,256	16,709	17,506	18,592
Live births	11,532	13,009	13,346	14,111	14,960
<i>Clinical pregnancies per initiated cycle (%)</i>	<i>37.8</i>	<i>38.5</i>	<i>39.6</i>	<i>40.2</i>	<i>41.0</i>
<i>Clinical pregnancy per embryo transfer (%)</i>	<i>38.5</i>	<i>39.3</i>	<i>40.1</i>	<i>40.6</i>	<i>41.4</i>
<i>Live births per initiated cycle (%)</i>	<i>30.6</i>	<i>30.8</i>	<i>31.6</i>	<i>32.4</i>	<i>33.0</i>
<i>Live births per embryo transfer (%)</i>	<i>31.2</i>	<i>31.4</i>	<i>32.1</i>	<i>32.8</i>	<i>33.3</i>

(a) Included autologous cycles, oocyte/embryo recipient cycles, GIFT cycles and surrogacy cycles.

The clinical pregnancy and live birth rates per OPU provide an estimate of the chances of success following a single OPU cycle. For this measure, all OPUs and fresh and thaw embryo transfers were performed in 2024 and embryo transfers were not linked to the OPU from which they originated. The calculation is the sum of all clinical pregnancies or live births from fresh and thaw cycles performed in 2024 as the numerator and the number of OPUs performed in 2024 as the denominator.

Between 2020 and 2024, the live birth rate from fresh and thaw cycles per OPU cycle has varied between 33% and 35% (Table 44).

Table 44: Outcomes of fresh and thaw cycles following OPU, Australia and New Zealand, 2020–2024

Outcome of treatment	2020	2021	2022	2023	2024
Cycles with OPU ^(a)	50,694	56,629	56,752	59,820	59,231
Clinical pregnancies	22,154	25,028	24,315	24,808	25,389
Live births	17,670	19,842	19,314	19,741	20,214
<i>Clinical pregnancies from fresh and thaw cycles per OPU cycles^(b)</i>	<i>43.7</i>	<i>44.2</i>	<i>42.8</i>	<i>41.5</i>	<i>42.9</i>
<i>Live births from fresh and thaw cycles per OPU cycle^(c)</i>	<i>34.9</i>	<i>35.0</i>	<i>34.0</i>	<i>33.0</i>	<i>34.1</i>

(a) Cycles with OPU include cycles where no oocytes were collected during the procedure.

(b) Clinical pregnancies from fresh and thaw cycles per OPU cycle is calculated using clinical pregnancies from fresh and thaw cycles as the numerator and cycles with OPU as the denominator.

(c) Live births from fresh and thaw cycles per OPU cycle is calculated using live births from fresh and thaw cycles as the numerator and cycles with OPU as the denominator.

Multiple gestation births

The proportion of multiple births decreased from 2.8% in 2020 to 2.2% in 2024 (Table 45). This low rate is primarily the result of the single embryo transfers (Table 49), noting that a multiple birth following the transfer of a single embryo may occur due to spontaneous conception at the time of embryo transfer or the splitting of the embryo in utero.

Table 45: Number of births following ART treatment by gestation, Australia and New Zealand, 2020–2024

Gestation	2020		2021		2022		2023		2024	
	n	%	n	%	n	%	n	%	n	%
Singleton	17,375	97.2	19,467	97.0	18,982	97.3	19,529	97.8	19,990	97.8
Multiple	502	2.8	605	3.0	534	2.7	441	2.2	460	2.2
<i>Twin</i>	493	2.8	592	2.9	526	2.7	436	2.2	452	2.2
<i>Higher order multiple</i>	9	0.1	13	0.1	8	0.0	5	0.0	8	0.0
Total^(a)	17,877	100.0	20,072	100.0	19,516	100.0	19,970	100.0	20,450	100.0

(a) Includes cycles in which gestation was unknown.

Women's age for autologous cycles

Women aged 35 to 39 were the largest age group undertaking autologous cycles between 2020 and 2024. The average age of women having autologous cycles remained stable over the period, at 36 years. The proportion of autologous cycles in women aged 40 and older ranged between 23% and 24.3% between 2020 and 2024 (Table 46).

Table 46: Number of fresh and thaw autologous cycles by women's age group, Australia and New Zealand, 2020 – 2024

Age group (years) ^(a)	2020		2021		2022		2023		2024	
<i>Mean</i>	36		36		36		36		36	
	n	%	n	%	n	%	n	%	n	%
< 30	8,899	9.8	9,337	8.9	8,926	8.7	9,091	8.6	8,912	8.3
30–34	25,820	28.5	29,514	28.1	28,652	28.1	29,760	28.1	30,735	28.7
35–39	34,971	38.6	40,583	38.7	39,777	39.0	41,489	39.2	42,247	39.4
40–44	19,238	21.3	23,409	22.3	22,555	22.1	23,300	22.0	23,148	21.6
≥ 45	1,601	1.8	2,074	2.0	2,103	2.1	2,215	2.1	2,130	2.0
Total	90,529	100.0	104,917	100.0	102,013	100.0	105,855	100.0	107,172	100.0

(a) Age at start of treatment cycle.

Types of ART treatment and stage of embryo development

The proportion of embryo transfer cycles that used embryos fertilised using ICSI has decreased from 56.1% in 2020 to 54.6% in 2024. The proportion of blastocyst transfer cycles increased from 89.4% in 2020 to 94.4% in 2024 (Table 47).

Table 47: Number of embryo transfer cycles by treatment type, Australia and New Zealand, 2020–2024

Treatment type ^(a) and procedure	2020		2021		2022		2023		2024	
	n	%	n	%	n	%	n	%	n	%
Fertilisation procedure										
IVF	26,815	43.9	30,249	44.4	28,497	44.1	28,960	44.6	29,488	45.4
ICSI ^(b)	34,299	56.1	37,919	55.6	36,116	55.9	35,992	55.4	35,459	54.6
Not stated/GIFT	4	0.0	0	0.0	5	0.0	5	0.0	0	0.0
Total	61,118	100.0	68,168	100.0	64,618	100.0	64,957	100.0	64,947	100.0
Stage of embryo development										
Cleavage stage	6,495	10.6	5,803	8.5	4,971	7.7	4,324	6.7	3,643	5.6
Blastocyst ^(c)	54,619	89.4	62,365	91.5	59,642	92.3	60,628	93.3	61,304	94.4
Not stated/GIFT	4	0.0	0	0.0	5	0.0	5	0.0	0	0.0
Total	61,118	100.0	68,168	100.0	64,618	100.0	64,957	100.0	64,947	100.0

(a) Includes autologous cycles, oocyte/embryo recipient cycles, and surrogacy cycles.

(b) Includes cycles where both ICSI and IVF fertilised embryos were transferred.

(c) Includes cycles where both cleavage-stage embryos and blastocysts were transferred.

Types of cryopreservation and stage of embryo development

The proportion of thaw embryo transfer cycles that used vitrified embryos increased for blastocysts between 2020 and 2024 (Table 48). In 2024, 98.3% of blastocyst transfers and 86% of cleavage-stage transfers used vitrified embryos.

Table 48: Number of thaw embryo transfer cycles by cryopreservation method and stage of embryo development, Australia and New Zealand, 2020–2024

Treatment type and procedure	2020		2021		2022		2023		2024	
	n	%	n	%	n	%	n	%	n	%
Cleavage stage										
Slow frozen	322	19.0	294	25.5	209	19.1	179	19.2	103	14.0
Vitrification ^(a)	1,370	81.0	859	74.5	884	80.7	752	80.8	635	86.0
Not stated	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	1,692	100.0	1,153	100.0	1,093	100.0	931	100.0	738	100.0
Blastocyst										
Slow frozen	1,265	3.6	1,121	2.8	885	2.2	806	1.9	753	1.7
Vitrification ^(a)	34,007	96.4	39,123	97.3	39,639	97.8	41,343	98.1	43,417	98.3
Not stated	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	35,272	100.0	40,244	100.0	40,524	100.0	42,149	100.0	44,170	100.0

(a) Includes cycles where both vitrified and slow-frozen embryos were transferred.

Number of embryos transferred per embryo transfer cycle

The proportion of SET cycles has increased from 93% of embryo transfer cycles in 2020 to 95.4% of embryo transfer cycles in 2024 (Table 49).

Table 49: Percentage of embryo transfer cycles by number of embryos transferred, Australia and New Zealand, 2020–2024

Number of embryos transferred	2020	2021	2022	2023	2024
One embryo	93.0	93.6	94.2	94.9	95.4
Two embryos	6.9	6.4	5.7	5.1	4.5
Three or more embryos	0.1	0.1	0.1	0.0	0.0

8 Women undertaking autologous treatment in 2024

This section presents the number of women who underwent autologous ART treatment in 2024. The number of cycles undertaken by a woman included both fresh and thaw cycles. For some women, if their fresh cycles were undertaken in previous years, only their thaw cycles were reported and presented.

Women who undertook autologous treatment

There were 56,245 women who undertook 107,172 autologous fresh and/or thaw cycles in Australia and New Zealand in 2024. Of these women, 51,303 had treatment in Australia, 4,958 in New Zealand, including 16 having treatment in both Australia and New Zealand.

On average, 1.9 fresh and/or thaw cycles per woman were undertaken in 2024, with more cycles per woman in Australia (1.9 cycles per woman) than in New Zealand (1.7 cycles per woman). In Australia, more than half (51.8%) of the women had two or more autologous treatment cycles compared with 45.7% of women in New Zealand. In line with this, 10.4% of women in Australia had four or more cycles in 2024 compared with 4.7% of women in New Zealand (Table 50).

Table 50: Women undertaking autologous fresh and/or thaw cycles by number of cycles, Australia and New Zealand, 2024

Number of cycles	Australia		New Zealand		All	
	n	%	n	%	n	%
One	24,721	48.2	2,693	54.3	27,398	48.7
Two	14,430	28.1	1,490	30.1	15,912	28.3
Three	6,826	13.3	541	10.9	7,371	13.1
Four or more	5,326	10.4	234	4.7	5,564	9.9
Total	51,303	100.0	4,958	100.0	56,245	100.0

Note: Only women who undertook cycles in 2024 are included. Sixteen women had treatment in both Australia and New Zealand.

Women who undertook autologous fresh cycles

There were 64,912 autologous fresh cycles undertaken by 43,353 women in Australia and New Zealand in 2024, an average of 1.5 fresh cycles per woman. One in four (25.5%) women aged less than 35 had two or more autologous fresh cycles compared to one in three (37.2%) women aged 35 or more. This partly reflects the higher success rate per initiated fresh autologous cycle among women aged less than 35, and the fact that women aged less than 35 tend to have more cryopreserved embryos available for subsequent thaw cycles. About one percent of women aged under 30 had four or more cycles. This proportion increased to 2.2% for women aged 30 to 34 years, 3.7% for women aged 35 to 39 years and 7.5% for women aged 40 to 44 years (Table 51).

Table 51: Women undertaking autologous fresh cycles by number of cycles, Australia and New Zealand, 2024

Number of cycles	Age group (years) ^(a)					All
	< 30	30–34	35–39	40–44	≥ 45	
n						
One	3,158	9,899	11,244	4,604	369	29,274
Two	768	2,502	3,656	2,188	170	9,284
Three	185	675	1,215	969	84	3,128
Four or more	44	299	615	633	76	1,667
Total	4,155	13,375	16,730	8,394	699	43,353
%						
One	76.0	74.0	67.2	54.8	52.8	67.5
Two	18.5	18.7	21.9	26.1	24.3	21.4
Three	4.5	5.0	7.3	11.5	12.0	7.2
Four or more	1.1	2.2	3.7	7.5	10.9	3.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Age at start of first autologous fresh cycle in 2024.

Women who undertook autologous thaw cycles

There were 42,260 autologous thaw cycles undertaken by 29,117 women in Australia and New Zealand in 2024, an average of 1.5 thaw cycles per woman. A third (33.6%) of women aged under 30 had two or more thaw cycles compared with 20.1% of women aged 45 or older (Table 52).

Advancing women's age was associated with a decrease in the proportion of women having two or more thaw cycles, while advancing women's age saw an increase in the proportion of women having two or more fresh cycles (Table 51 and Table 52).

Table 52: Women undertaking autologous thaw cycles by number of cycles, Australia and New Zealand, 2024

Number of cycles	Age group (years) ^(a)					All
	< 30	30–34	35–39	40–44	≥ 45	
	n					
One	1,649	5,841	7,924	4,046	357	19,817
Two	566	2,009	2,723	1,097	61	6,456
Three	180	719	840	314	18	2,071
Four or more	90	237	321	114	11	773
Total	2,485	8,806	11,808	5,571	447	29,117
	%					
One	66.4	66.3	67.1	72.6	79.9	68.1
Two	22.8	22.8	23.1	19.7	13.6	22.2
Three	7.2	8.2	7.1	5.6	4.0	7.1
Four or more	3.6	2.7	2.7	2.0	2.5	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Age at start of first autologous thaw cycle in 2024.

9 Cycle-specific and cumulative live birth rates: 2021–2024

This chapter provides a longitudinal perspective on the outcomes of success for ART treatment undertaken by the same woman. The analysis includes women who started their first autologous ART ovarian stimulation cycle (as reported by the clinic) between 1 January 2021 and 31 December 2022 and subsequent ART treatments (all fresh and frozen/thaw embryo transfers) they had up until 31 December 2024, or until they achieved a live birth (a birth of at least one liveborn baby).

Donor sperm insemination cycles, oocyte/embryo recipient cycles, oocyte/embryo donation cycles, surrogacy arrangement cycles and GIFT cycles were excluded. Only the first six ART cycles are presented due to the small number of women undertaking seven or more treatment cycles between 1 January 2021 and 31 December 2024.

How to interpret Tables 53 to 59

- The following tables report on women who started their first ART ovarian stimulation cycle in Australia or New Zealand between 1 January 2021 and 31 December 2022, and reports on all subsequent ART treatments and outcomes until 31 December 2024. This allows for a minimum of two years and a maximum of four years of follow-up for each woman.
- Table 53 presents the number of complete cycles by the age-group of women who undertook their first autologous ovarian stimulation cycle in 2021-2022. Figure 7 and Tables 54 to 59 present the cycle specific and cumulative live birth rates from *complete ART cycles*. A complete ART cycle is defined as an initiated ART ovarian stimulation cycle including all fresh and frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where no eggs are retrieved or embryos created are still counted as complete ART cycles.
- Complete ART cycles are not included in the tables if all eggs/embryos were cryopreserved (freeze-all cycles) and the women did not return to transfer embryos in subsequent frozen/thaw cycles before 31 December 2024.
- Only the first live birth to a woman is counted. Any subsequent ART treatments by the same woman are not included.
- The *discontinuation rate* is the percentage of women who did not achieve a live birth and did not return for further ART treatment before 31 December 2024. For example, 31.1% of women who did not achieve a live birth by their second complete cycle did not return for a third cycle (Table 54).
- The *cycle specific live birth rate* is calculated as the percentage of women who had a live birth in a specific complete ART cycle after previous failed treatment attempts. For example, 21.6% of women who undertook a third complete ART cycle achieved a live birth in that cycle (Table 54).
- The *conservative cumulative live birth rate* assumes that women who discontinued treatment would have zero probability of achieving a live birth if they had continued with ART treatment. It is calculated as the cumulative probability of achieving a live birth for women who continued treatment up to a specific complete ART cycle. For example, 54.4% of women who commenced ART treatment in 2021-2022 and undertook three complete ART cycles, achieved a live birth (Table 54).
- The *optimal cumulative live birth rate* assumes that women who discontinued treatment had an equal chance of achieving a live birth as those who continued with ART treatment. For example, it assumes that the 31.1% of women who discontinued treatment after their second failed cycle, would have a 21.6% chance of having a baby in their third complete ART cycle, resulting in a theoretical cumulative live birth rate of 64.3% after three complete ART cycles (Table 54).

Table 53: Number of complete cycles by women's age group for all women who started their first autologous ovarian stimulation cycle (excluding freeze-all cycles^(a)) between 1 January 2021 and 31 December 2022, Australia and New Zealand

Complete cycle number	Age group (years) ^(b)					All
	< 30	30–34	35–39	40–44	≥ 45	
	n					
One	1,374	3,672	3,820	1,722	216	10,804
Two	1,758	4,438	4,511	1,794	148	12,649
Three	918	2,481	2,603	1,167	80	7,249
Four	543	1,473	1,766	816	42	4,640
Five	358	889	1,105	570	22	2,944
Six	191	548	793	365	12	1,909
Seven	116	348	524	276	9	1,273
Eight	86	230	356	175	6	853
Nine	56	160	200	113	5	534
Ten or more	56	257	405	267	9	994
Total	5,456	14,496	16,083	7,265	549	43,849
	%					
One	25.2	25.3	23.8	23.7	39.3	24.6
Two	32.2	30.6	28.0	24.7	27.0	28.8
Three	16.8	17.1	16.2	16.1	14.6	16.5
Four	10.0	10.2	11.0	11.2	7.7	10.6
Five	6.6	6.1	6.9	7.8	4.0	6.7
Six	3.5	3.8	4.9	5.0	2.2	4.4
Seven	2.1	2.4	3.3	3.8	1.6	2.9
Eight	1.6	1.6	2.2	2.4	1.1	1.9
Nine	1.0	1.1	1.2	1.6	0.9	1.2
Ten or more	1.0	1.8	2.5	3.7	1.6	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Freeze-all cycles are ART treatment cycles where all oocytes or embryos are cryopreserved and an embryo transfer does not take place before 31 December 2024.

(b) Age at start of first autologous ovarian stimulation ART treatment cycle (excluding freeze-all cycles) undertaken in 2021–2022.

Note: Women who started their first autologous ovarian stimulation non-freeze-all ART treatment cycle between 1 January 2021 and 31 December 2022 were followed through subsequent fresh and thaw cycles, excluding freeze-all cycles, until 31 December 2024 or birth of a liveborn baby up to 31 October 2025. Totals and subtotals may not equal 100.0 due to rounding. Data should be interpreted with caution due to small numbers in certain cells.

Table 54: Cycle-specific and cumulative live birth rates (complete cycle) for all women who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022^(a) and followed until 31 December 2024 or the first treatment-dependent live birth

Complete ART cycle number ^(b)	Number of women starting cycle	Number of live births ^(c)	Discontinuation rate ^(d)	Cycle specific live birth rate ^(e)	Conservative cumulative live birth rate ^(f)	Optimal cumulative live birth rate ^(g)
One	43,849	16,419	28.9%	37.4%	37.4%	37.4%
Two	19,513	5,323	31.1%	27.3%	49.6%	54.5%
Three	9,774	2,112	31.6%	21.6%	54.4%	64.3%
Four	5,240	833	33.5%	15.9%	56.3%	70.0%
Five	2,932	402	32.0%	13.7%	57.2%	74.1%
Six	1,720	188	35.1%	10.9%	57.6%	76.9%

- (a) The first autologous ovarian stimulation cycle undertaken by a woman in an Australian or New Zealand ART clinic.
- (b) A complete ART cycle is defined as the initial ovarian stimulation cycle and subsequent frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where all eggs/embryos were cryopreserved (freeze-all cycles) and no eggs/embryos were used in subsequent thaw cycles up until 31 December 2024 are not counted. Cycles with intended or actual egg retrieval but without ovarian stimulation are excluded from the analysis.
- (c) A live birth is the birth of one or more liveborn infants, with the birth of twins or higher order multiples counted as one live birth.
- (d) The discontinuation rate after a specific cycle is calculated as the number of women who did not return for a further ovarian stimulation cycle before 31 December 2024 divided by the number of women who did not have a live birth in that complete ART cycle. Reasons that a woman did not progress to the next treatment, such as poor prognosis, spontaneous pregnancy, migration, financial, psychological and other unrelated reasons, are not collected in ANZARD.
- (e) The cycle-specific live birth rate for a specific complete ART cycle is calculated as the number of live births achieved from that specific complete ART cycle divided by the number of women who commenced at that cycle.
- (f) The conservative cumulative live birth rate for a specific ART cycle is calculated as the number of women who achieved a live birth up to and including that complete ART cycle divided by the total number of women who commenced complete ART cycle 1.
- (g) The optimal cumulative live birth rate is calculated by assuming that women who discontinued treatment would have had the same chance of a live birth in a particular cycle as those who continued.

Note: Further treatment cycles after the sixth cycle and resulting live births are not presented in this table due to small numbers. Data should be interpreted with caution due to small numbers in certain cells.

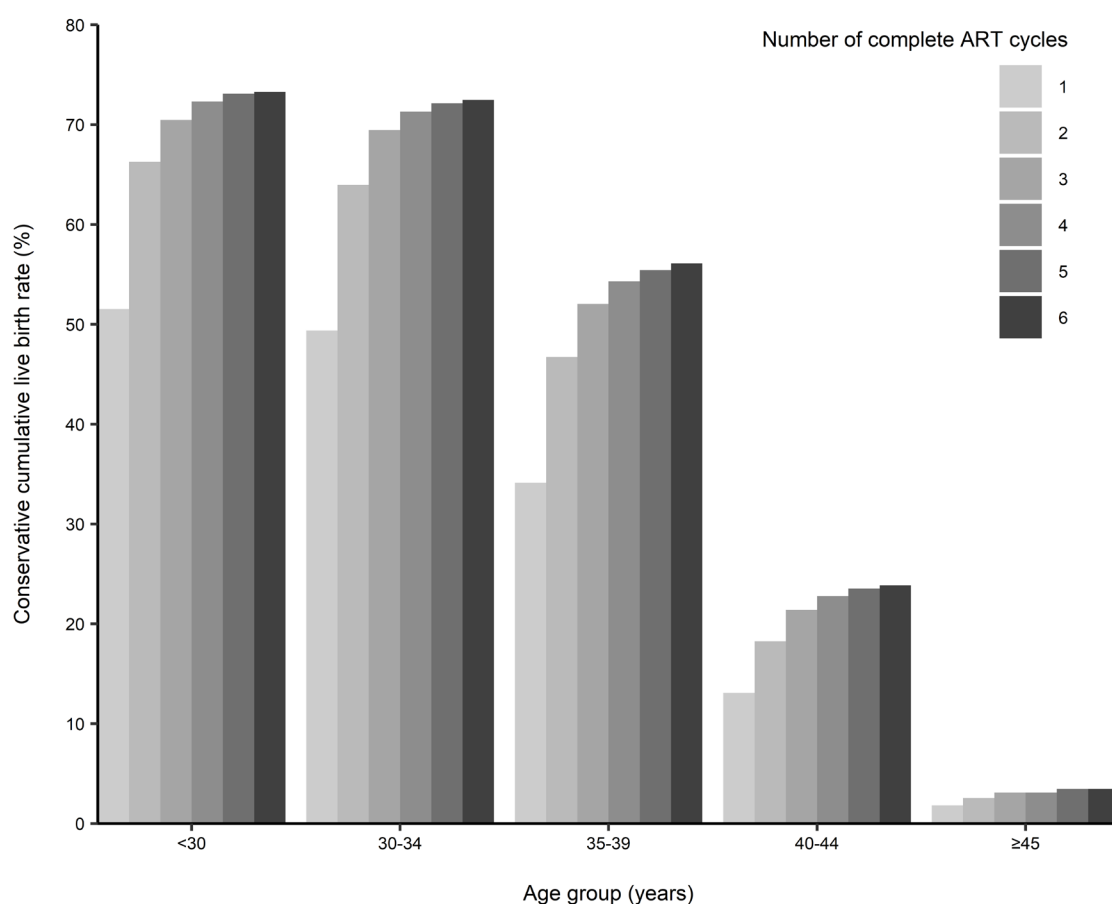


Figure 7: Conservative cumulative live birth rates (complete cycle) for all women who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 and followed until 31 December 2024 or the first treatment-dependent live birth

Table 55: Cycle-specific and cumulative live birth rates (complete cycle) for women aged less than 30 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022^(a) and followed until 31 December 2024 or the first treatment-dependent live birth

Complete ART cycle number ^(b)	Number of women starting cycle	Number of live births ^(c)	Discontinuation rate ^(d)	Cycle specific live birth rate ^(e)	Conservative cumulative live birth rate ^(f)	Optimal cumulative live birth rate ^(g)
One	5,456	2,811	30.3%	51.5%	51.5%	51.5%
Two	1,844	805	34.9%	43.7%	66.3%	72.7%
Three	676	229	36.0%	33.9%	70.5%	81.9%
Four	286	100	37.6%	35.0%	72.3%	88.3%
Five	116	43	41.1%	37.1%	73.1%	92.6%
Six	43	10	48.5%	23.3%	73.3%	94.3%

- (a) The first autologous ovarian stimulation cycle undertaken by a woman in an Australian or New Zealand ART clinic.
- (b) A complete ART cycle is defined as the initial ovarian stimulation cycle and subsequent frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where all eggs/embryos were cryopreserved (freeze-all cycles) and no eggs/embryos were used in subsequent thaw cycles up until 31 December 2024 are not counted. Cycles with intended or actual egg retrieval but without ovarian stimulation are excluded from the analysis.
- (c) A live birth is the birth of one or more liveborn infants, with the birth of twins or higher order multiples counted as one live birth.
- (d) The discontinuation rate after a specific cycle is calculated as the number of women who did not return for a further ovarian stimulation cycle before 31 December 2024 divided by the number of women who did not have a live birth in that complete ART cycle. Reasons that a woman did not progress to the next treatment, such as poor prognosis, spontaneous pregnancy, migration, financial, psychological and other unrelated reasons, are not collected in ANZARD.
- (e) The cycle-specific live birth rate for a specific complete ART cycle is calculated as the number of live births achieved from that specific complete ART cycle divided by the number of women who commenced at that cycle.
- (f) The conservative cumulative live birth rate for a specific ART cycle is calculated as the number of women who achieved a live birth up to and including that complete ART cycle divided by the total number of women who commenced complete ART cycle 1.
- (g) The optimal cumulative live birth rate is calculated by assuming that women who discontinued treatment would have had the same chance of a live birth in a particular cycle as those who continued.

Note: Further treatment cycles after the sixth cycle and resulting live births are not presented in this table due to small numbers. Data should be interpreted with caution due to small numbers in certain cells.

Table 56: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 30-34 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022^(a) and followed until 31 December 2024 or the first treatment-dependent live birth

Complete ART cycle number ^(b)	Number of women starting cycle	Number of live births ^(c)	Discontinuation rate ^(d)	Cycle specific live birth rate ^(e)	Conservative cumulative live birth rate ^(f)	Optimal cumulative live birth rate ^(g)
One	14,496	7,158	27.1%	49.4%	49.4%	49.4%
Two	5,346	2,114	28.3%	39.5%	64.0%	69.4%
Three	2,316	795	31.0%	34.3%	69.4%	79.9%
Four	1,049	271	33.2%	25.8%	71.3%	85.1%
Five	520	120	28.3%	23.1%	72.1%	88.5%
Six	287	46	38.6%	16.0%	72.5%	90.4%

- (a) The first autologous ovarian stimulation cycle undertaken by a woman in an Australian or New Zealand ART clinic.
- (b) A complete ART cycle is defined as the initial ovarian stimulation cycle and subsequent frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where all eggs/embryos were cryopreserved (freeze-all cycles) and no eggs/embryos were used in subsequent thaw cycles up until 31 December 2024 are not counted. Cycles with intended or actual egg retrieval but without ovarian stimulation are excluded from the analysis.
- (c) A live birth is the birth of one or more liveborn infants, with the birth of twins or higher order multiples counted as one live birth.
- (d) The discontinuation rate after a specific cycle is calculated as the number of women who did not return for a further ovarian stimulation cycle before 31 December 2024 divided by the number of women who did not have a live birth in that complete ART cycle. Reasons that a woman did not progress to the next treatment, such as poor prognosis, spontaneous pregnancy, migration, financial, psychological and other unrelated reasons, are not collected in ANZARD.
- (e) The cycle-specific live birth rate for a specific complete ART cycle is calculated as the number of live births achieved from that specific complete ART cycle divided by the number of women who commenced at that cycle.
- (f) The conservative cumulative live birth rate for a specific ART cycle is calculated as the number of women who achieved a live birth up to and including that complete ART cycle divided by the total number of women who commenced complete ART cycle 1.
- (g) The optimal cumulative live birth rate is calculated by assuming that women who discontinued treatment would have had the same chance of a live birth in a particular cycle as those who continued.

Note: Further treatment cycles after the sixth cycle and resulting live births are not presented in this table due to small numbers. Data should be interpreted with caution due to small numbers in certain cells.

Table 57: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 35-39 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022^(a) and followed until 31 December 2024 or the first treatment-dependent live birth

Complete ART cycle number ^(b)	Number of women starting cycle	Number of live births ^(c)	Discontinuation rate ^(d)	Cycle specific live birth rate ^(e)	Conservative cumulative live birth rate ^(f)	Optimal cumulative live birth rate ^(g)
One	16,083	5,489	27.5%	34.1%	34.1%	34.1%
Two	7,677	2,025	30.1%	26.4%	46.7%	51.5%
Three	3,951	856	30.1%	21.7%	52.0%	62.0%
Four	2,162	362	32.5%	16.7%	54.3%	68.4%
Five	1,215	183	32.8%	15.1%	55.4%	73.1%
Six	694	108	33.6%	15.6%	56.1%	77.3%

- (a) The first autologous ovarian stimulation cycle undertaken by a woman in an Australian or New Zealand ART clinic.
- (b) A complete ART cycle is defined as the initial ovarian stimulation cycle and subsequent frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where all eggs/embryos were cryopreserved (freeze-all cycles) and no eggs/embryos were used in subsequent thaw cycles up until 31 December 2024 are not counted. Cycles with intended or actual egg retrieval but without ovarian stimulation are excluded from the analysis.
- (c) A live birth is the birth of one or more liveborn infants, with the birth of twins or higher order multiples counted as one live birth.
- (d) The discontinuation rate after a specific cycle is calculated as the number of women who did not return for a further ovarian stimulation cycle before 31 December 2024 divided by the number of women who did not have a live birth in that complete ART cycle. Reasons that a woman did not progress to the next treatment, such as poor prognosis, spontaneous pregnancy, migration, financial, psychological and other unrelated reasons, are not collected in ANZARD.
- (e) The cycle-specific live birth rate for a specific complete ART cycle is calculated as the number of live births achieved from that specific complete ART cycle divided by the number of women who commenced at that cycle.
- (f) The conservative cumulative live birth rate for a specific ART cycle is calculated as the number of women who achieved a live birth up to and including that complete ART cycle divided by the total number of women who commenced complete ART cycle 1.
- (g) The optimal cumulative live birth rate is calculated by assuming that women who discontinued treatment would have had the same chance of a live birth in a particular cycle as those who continued.

Note: Further treatment cycles after the sixth cycle and resulting live births are not presented in this table due to small numbers. Data should be interpreted with caution due to small numbers in certain cells.

Table 58: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 40-44 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022^(a) and followed until 31 December 2024 or the first treatment-dependent live birth

Complete ART cycle number ^(b)	Number of women starting cycle	Number of live births ^(c)	Discontinuation rate ^(d)	Cycle specific live birth rate ^(e)	Conservative cumulative live birth rate ^(f)	Optimal cumulative live birth rate ^(g)
One	7,265	951	31.3%	13.1%	13.1%	13.1%
Two	4,339	375	32.6%	8.6%	18.3%	20.6%
Three	2,672	229	32.1%	8.6%	21.4%	27.4%
Four	1,660	100	34.0%	6.0%	22.8%	31.8%
Five	1,029	54	31.8%	5.2%	23.5%	35.4%
Six	665	24	34.8%	3.6%	23.9%	37.7%

- (a) The first autologous ovarian stimulation cycle undertaken by a woman in an Australian or New Zealand ART clinic.
- (b) A complete ART cycle is defined as the initial ovarian stimulation cycle and subsequent frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where all eggs/embryos were cryopreserved (freeze-all cycles) and no eggs/embryos were used in subsequent thaw cycles up until 31 December 2024 are not counted. Cycles with intended or actual egg retrieval but without ovarian stimulation are excluded from the analysis.
- (c) A live birth is the birth of one or more liveborn infants, with the birth of twins or higher order multiples counted as one live birth.
- (d) The discontinuation rate after a specific cycle is calculated as the number of women who did not return for a further ovarian stimulation cycle before 31 December 2024 divided by the number of women who did not have a live birth in that complete ART cycle. Reasons that a woman did not progress to the next treatment, such as poor prognosis, spontaneous pregnancy, migration, financial, psychological and other unrelated reasons, are not collected in ANZARD.
- (e) The cycle-specific live birth rate for a specific complete ART cycle is calculated as the number of live births achieved from that specific complete ART cycle divided by the number of women who commenced at that cycle.
- (f) The conservative cumulative live birth rate for a specific ART cycle is calculated as the number of women who achieved a live birth up to and including that complete ART cycle divided by the total number of women who commenced complete ART cycle 1.
- (g) The optimal cumulative live birth rate is calculated by assuming that women who discontinued treatment would have had the same chance of a live birth in a particular cycle as those who continued.

Note: Further treatment cycles after the sixth cycle and resulting live births are not presented in this table due to small numbers. Data should be interpreted with caution due to small numbers in certain cells.

Table 59: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 45 or more who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022^(a) and followed until 31 December 2024 or the first treatment-dependent live birth

Complete ART cycle number ^(b)	Number of women starting cycle	Number of live births ^(c)	Discontinuation rate ^(d)	Cycle specific live birth rate ^(e)	Conservative cumulative live birth rate ^(f)	Optimal cumulative live birth rate ^(g)
One	549	10	43.0%	1.8%	1.8%	1.8%
Two	307	4	47.5%	1.3%	2.6%	3.1%
Three	159	3	46.8%	1.9%	3.1%	4.9%
Four	83	0	37.3%	0.0%	3.1%	4.9%
Five	52	2	38.0%	3.8%	3.5%	8.6%
Six	31	0	25.8%	0.0%	3.5%	8.6%

- (a) The first autologous ovarian stimulation cycle undertaken by a woman in an Australian or New Zealand ART clinic.
- (b) A complete ART cycle is defined as the initial ovarian stimulation cycle and subsequent frozen/thaw embryo transfers associated with that ovarian stimulation. Ovarian stimulation cycles where all eggs/embryos were cryopreserved (freeze-all cycles) and no eggs/embryos were used in subsequent thaw cycles up until 31 December 2024 are not counted. Cycles with intended or actual egg retrieval but without ovarian stimulation are excluded from the analysis.
- (c) A live birth is the birth of one or more liveborn infants, with the birth of twins or higher order multiples counted as one live birth.
- (d) The discontinuation rate after a specific cycle is calculated as the number of women who did not return for a further ovarian stimulation cycle before 31 December 2024 divided by the number of women who did not have a live birth in that complete ART cycle. Reasons that a woman did not progress to the next treatment, such as poor prognosis, spontaneous pregnancy, migration, financial, psychological and other unrelated reasons, are not collected in ANZARD.
- (e) The cycle-specific live birth rate for a specific complete ART cycle is calculated as the number of live births achieved from that specific complete ART cycle divided by the number of women who commenced at that cycle.
- (f) The conservative cumulative live birth rate for a specific ART cycle is calculated as the number of women who achieved a live birth up to and including that complete ART cycle divided by the total number of women who commenced complete ART cycle 1.
- (g) The optimal cumulative live birth rate is calculated by assuming that women who discontinued treatment would have had the same chance of a live birth in a particular cycle as those who continued.

Note: Further treatment cycles after the sixth cycle and resulting live births are not presented in this table due to small numbers. Data should be interpreted with caution due to small numbers in certain cells.

Appendix A: Contributing ART Units

Australian Capital Territory

COMPASS Fertility, Barton (Dr Nicole Sides)
Genea Canberra, Deakin (A/Prof Mark Bowman)
IVF Australia Canberra, Deakin (Dr Frank Quinn)

New South Wales

Adora Fertility – Sydney, Surry Hills (Dr Paul Atkinson)
Albury IVF, Albury (Dr Scott Giltrap)
City Fertility Centre – Gregory Hills, Gledswood Hills (Dr Devora Lieberman)
City Fertility Centre – Miranda, Caringbah (Dr Devora Lieberman)
City Fertility Centre – Sydney, Liverpool (Dr Devora Lieberman)
City Fertility Centre – Sydney City (Dr Devora Lieberman)
Connect IVF – Sydney (Dr Julie Lukic)
Demeter Fertility, Hurstville (Dr David Knight)
Fertility First, Hurstville (Dr Anne Clark)
Genea – Bella Vista, Bella Vista (Dr Monique Atkinson)
Genea – Liverpool, Liverpool (Dr Mark Livingstone)
Genea – Newcastle, Merewether (Dr Myvanwy McIlveen)
Genea – Orange, Orange (Dr Mark Livingstone)
Genea – RPAH, Camperdown (Dr Ying Li)
Genea – Sydney CBD (Dr Anthony Marren)
Genea – Wollongong, Wollongong (A/Prof Mark Bowman)
IVF Australia – Eastern Suburbs, Alexandria (Dr Frank Quinn)
IVF Australia – Hunter IVF, New Lambton Heights (Dr Frank Quinn)
IVF Australia – North Shore, Greenwich (Dr Frank Quinn)
IVF Australia – Western Sydney, Westmead (Dr Frank Quinn)
IVF Australia – Wollongong, Wollongong (Dr Frank Quinn)
Life Fertility Clinic – Sydney Potts Point (Prof Michael Chapman)
Minerva Fertility, Bella Vista (Dr Antony Lighten)
Monash IVF – Albury, Albury (Prof Luk Rombauts)
Monash IVF – Bondi Junction, Bondi Junction (Dr Michael Costello)
Monash IVF – Parramatta, Parramatta (Dr Michael Costello)
Monash IVF – Penrith, Kingswood (Dr Michael Costello)
Monash IVF – Sydney City (Dr Michael Costello)
Riverina IVF, Wagga Wagga (Dr Scott Giltrap)

Royal Hospital for Women – Fertility & Research Centre, Randwick (Dr Rachael Rodgers)

The Fertility Centre – Liverpool, Liverpool (Dr Frank Quinn)

The Fertility Centre – Nepean, Kingswood (Dr Frank Quinn)

Westmead Fertility Centre, Westmead (A/Prof Warren Chan)

Northern Territory

Repromed Darwin, Tiwi (Dr Juliette Koch)

Queensland

Adora Fertility – Brisbane, Taringa (Dr Paul Atkinson)

Care Fertility, Greenslopes (Dr Clare Boothroyd)

City Fertility Centre – Brisbane, Newstead (Dr Simone Campbell)

City Fertility Centre – Gold Coast, Robina (Dr Neil Astill)

City Fertility Centre – Southside, Sunnybank (Dr Neil Astill)

City Fertility Centre – Toowoomba, Toowoomba (Dr Neil Astill)

Coastal IVF, Maroochydore (Dr Paul Stokes)

Genea – Brisbane, Bowen Hills (Dr John Esler)

Life Fertility Clinic, Bowen Hills (Dr Glenn Sterling)

Monash IVF Brisbane, Spring Hill (Dr Ross Turner)

Monash IVF Bundaberg, Bundaberg West (Dr Ross Turner)

Monash IVF Cairns, Cairns (Dr Ross Turner)

Monash IVF Gold Coast, Southport (Dr Ross Turner)

Monash IVF Rockhampton, Rockhampton (Dr Ross Turner)

Monash IVF Sunshine Coast, Buderim (Dr Ross Turner)

Monash IVF Townsville, Townsville (Dr Ross Turner)

QFG Brisbane, Spring Hill (Prof Hayden Homer)

QFG Cairns, Cairns (Prof Hayden Homer)

QFG Gold Coast, Benowa (Prof Hayden Homer)

QFG Mackay, North Mackay (Prof Hayden Homer)

QFG Sunshine Coast, Birtinya (Prof Hayden Homer)

QFG Toowoomba, Toowoomba (Prof Hayden Homer)

QFG Townsville, Hyde Park (Prof Hayden Homer)

The Fertility Centre, Springwood (Prof Hayden Homer)

South Australia

Family Fertility Centre, Ashford (Dr Marcin Stankiewicz)

Flinders Fertility, Glenelg (Prof Neil Johnson)

Genea Fertility SA, Adelaide (Dr Bruno Radesic)
Repromed Adelaide, Dulwich (Dr Juliette Koch)

Tasmania

Fertility Tasmania, Hobart (Dr Irena Nikakis)
TasIVF, Hobart (Dr Manuela Toledo)

Victoria

Adora Fertility – Melbourne, Greensborough (Dr Paul Atkinson)
Ballarat IVF, Wendouree (Dr Russell Dalton)
City Fertility Centre Bundoora, Bundoora (Dr Alex Eskander)
City Fertility Centre Melbourne, Melbourne (Dr Anne Poliness)
City Fertility Centre Notting Hill, Notting Hill (Dr David Wilkinson)
Create Fertility, Mount Waverly (Dr Russell Dalton)
Genea Heidelberg, Heidelberg (Dr Kate McIlwaine)
Genea Melbourne City, North Melbourne (Dr John Esler)
Life Fertility Clinic – Melbourne, Fitzroy (Dr Glenn Sterling)
Melbourne IVF, East Melbourne (Dr Raelia Lew)
Melbourne IVF, Templestowe (Dr Raelia Lew)
Monash IVF Bendigo, Bendigo (Prof Luk Rombauts)
Monash IVF Clayton, Clayton (Prof Luk Rombauts)
Monash IVF Cremorne, Cremorne (Prof Luk Rombauts)
Monash IVF Geelong, Geelong (Prof Luk Rombauts)
Monash IVF Mildura, Mildura (Prof Luk Rombauts)
Monash IVF Sale, Sale (Prof Luk Rombauts)
Monash IVF Sunshine, St Albans (Prof Luk Rombauts)
Newlife IVF, Box Hill North (Dr Nicole Hope)
Number 1 Fertility, East Melbourne (Dr Lynn Burmeister)
The Royal Women's Hospital – Public Fertility Care, Parkville (Dr Rashi Kalra)
Thrive Fertility, Epping (Dr Linda Walmsley)

Western Australia

Adora Fertility – Perth, Craigie (Dr Paul Atkinson)
Concept Fertility Centre, Subiaco (Dr Kevin Artley)
Fertility North, Joondalup (Dr Vince Chapple)
Fertility Specialists of Western Australia, Applecross (Prof Roger Hart)
Fertility Specialists of Western Australia, Claremont (Prof Roger Hart)
Genea Perth, Wembley (A/Prof Mark Bowman)

Monash IVF West, West Leederville (Dr Tamara Hunter)

Oasis Fertility Centre, South Perth (Dr Santanu Baruah)

New Zealand

Fertility Associates Auckland, Auckland (Dr Andrew Murray)

Fertility Associates Christchurch, Christchurch (Dr Andrew Murray)

Fertility Associates Dunedin, Dunedin (Dr Andrew Murray)

Fertility Associates Hamilton, Hamilton (Dr Andrew Murray)

Fertility Associates Tauranga, Tauranga (Dr Andrew Murray)

Fertility Associates Wellington, Wellington (Dr Andrew Murray)

Fertility Plus, Auckland (Prof Cynthia Farquhar)

Repromed Auckland, Auckland (Dr Devashana Gupta)

Appendix B: Data used in this report

The data presented in this report are supplied by 105 ART Units in Australia and New Zealand and are compiled into ANZARD 3.0. ANZARD 3.0 includes autologous treatment cycles, treatment involving donated oocytes or embryos, and treatment involving surrogacy arrangements. ANZARD 3.0 collects data on the use of ART techniques such as ICSI, oocyte/embryo freezing methods, PGT and cleavage/blastocyst transfers. In addition to ART procedures, ANZARD 3.0 also collects data on artificial insemination cycles using donated sperm (DI) from ART Units. The outcomes of pregnancies, births and babies born following ART and DI treatments are also maintained in ANZARD 3.0. This includes the method of birth, birth status, birthweight, gestational age, plurality, perinatal mortality and selected information on maternal morbidity.

Data validation

Most ART Units have computerised data information management systems and can provide NPESU with high-quality data. All data processed by NPESU undergoes a validation process, with data queries being followed up with ART Unit staff.

The Reproductive Technology Accreditation Committee (RTAC) of the Fertility Society of Australia and New Zealand (FSANZ) also plays a role in ensuring the quality of ANZARD 3.0 data. ANZARD submissions from ART Units are audited by certifying bodies according to the RTAC Code of Practice. This includes selected records against ART Unit files in their annual inspections. All ART cycles and DI undertaken in Australia and New Zealand must be reported to ANZARD as part of their accreditation by the RTAC of the FSANZ.

Data presentation

Chapters 2 to 7 of this report present information on ART and DI treatment cycles that took place in ART Units in Australia and New Zealand in 2024 and the resulting pregnancies and births. The babies included in this report were conceived following treatment cycles undertaken in 2024 and were born in either 2024 or 2025. Data presented in Chapters 2 to 7 are for treatment cycles and not women. It is possible for an individual woman to undergo more than one treatment cycle in a year or experience more than one pregnancy. This means that information reported about patient characteristics in Chapters 2 to 7, such as age, parity and cause of infertility, is based on calculations in which individuals may be counted more than once. The rates of clinical pregnancy and live birth in Chapters 2 to 7 were measured per initiated cycle. Where the number of initiated cycles was not available, the rates were calculated per embryo transfer cycle.

Chapter 8 presents information on women undergoing ART treatment cycles in 2024.

Chapter 9 presents longitudinal information on the cohort of women who were identified as starting their first autologous (non-freeze-all) fresh ART cycle in 2021-2022.

Where applicable, percentages in tables have been calculated including the 'Not stated' category. Throughout the report, for totals, percentages may not add up to 100.0 and, for subtotals, they may not add up to the sum of the percentages for the categories. This is due to rounding error.

Data limitations

Follow-up of pregnancy and 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 ART Unit and includes follow-up with the patient or clinician, or the 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. ART Unit staff invest great effort in validating such information by obtaining medical records from clinicians or hospitals.

Note that some contributing ART Units may have closed or changed their name since 2024. The medical director listed is based on information provided by the FSANZ at the time this report was prepared.

Appendix C: ANZARD 3.0 data items

Variable	Data domain
PATIENT AND INTENDED PARENT (S) DETAILS	
ANZARD Unit identifier	3-digit code for ART Units provided by NPESU. May consist of more than one ART Unit
ART unit identifier	3-digit code for ART Units provided by RTAC. A facility with a laboratory collecting or preparing human gametes and/or embryos for therapeutic service, possibly across a range of sites of clinical activity.
Sex (at birth) of the intended parents	1=a female-male couple 2=a single female 3=a female-female couple 4=a single male 5= a male-male couple
Unit patient ID/medical record number	ART Unit-issued unique patient identifier.
Female patient first two letters of first name	First two letters of female patient first name.
Female patient first two letters of surname	First two letters of female patient surname.
Female patient date of birth	DD/MM/YYYY.
Female patient height	Female patient height (in centimetres) at the time of treatment
Female patient weight	Female patient weight (in kilograms) at the time of treatment
Male intended parent first two letters of first name	First two letters of male intended parent's first name
Male intended parent first two letters of surname	First two letters of male intended parent's surname
Male intended parent date of birth	DD/MM/YYYY.
Non-patient female intended parent date of birth	DD/MM/YYYY.
Second male intended parent date of birth	DD/MM/YYYY.
Postcode	Postcode of patient residential area.
CYCLE DETAILS	
Cycle ID	Unique cycle identifier, allocated by the ART Unit.
Cycle date	DD/MM/YYYY Cycle date is coded by: 1. The first date where FSH/stimulation drug was administered 2. The date of last menstrual period (LMP) for unstimulated cycles (including natural fresh cycles, thaw cycles and donor insemination) 3. The date of oocyte/embryo thawing for lab-only cycles
Cycle type	1=Autologous: female-male couple, single female, female-female couple 2=Non-autologous: female-female couple 3=Non-autologous: oocyte/embryo donation 4=Non-autologous: oocyte recipient 5=Non-autologous: embryo recipient 6=Surrogacy – intended parent(s): Oocyte/embryo provision 7=Surrogacy – gestational carrier: Transfer (or thawing with the intention of transfer) of embryos to a gestational carrier 8=Lab-only cycle
Surrogacy arrangement	No – if cycle is not part of a surrogacy arrangement. Yes – if cycle is part of a surrogacy arrangement.

Variable	Data domain
Fertility preservation	1=No – cycle is not being undertaken for fertility preservation purposes 2=Yes – cycle is being undertaken for fertility preservation purposes
Reason for fertility preservation	1=Medical reason – cancer diagnosis 2=Medical reason – other 3=Non-medical reason
Period of infertility	DD/MM/YYYY The month and year that the female intended parent started trying to conceive (applies to female-male couples only)
Any pregnancies ≥ 20 weeks	No – if the female patient has had no previous pregnancy of 20 complete weeks or more Yes – if the female patient has had a pregnancy of 20 complete weeks or more by ART or by a different partner.
ART treatment being undertaken for reasons other than to treat clinical infertility	No – ART treatment being undertaken to treat clinical infertility Yes – ART treatment being undertaken for reasons other than to treat clinical infertility
Cause of infertility: tubal disease	No – in the opinion of the treating clinician or ART Unit, the cause of infertility is not due to tubal disease. Yes – in the opinion of the treating clinician or ART Unit, the cause of infertility is due to tubal disease.
Cause of infertility: endometriosis	No – in the opinion of the treating clinician or ART Unit, the cause of infertility is not due to endometriosis. Yes – in the opinion of the treating clinician or ART Unit, the cause of infertility is due to endometriosis.
Cause of infertility: other female factors	No – in the opinion of the treating clinician or ART Unit, the cause of infertility is not due to other female factors. Yes – in the opinion of the treating clinician or ART Unit, the cause of infertility is due to other female factors.
Polycystic ovarian syndrome	1=No – the treating clinician or ART Unit does not consider that the female intended parent has PCOS 2=Yes – the treating clinician or ART Unit considers that the female intended parent has PCOS, regardless of whether it is contributing to infertility 3=Unknown – the treating clinician or ART Unit has not assessed the female intended parent for PCOS
Cause of infertility: male factor	No – in the opinion of the treating clinician or ART Unit, the cause of infertility is not due to male factors. Yes – in the opinion of the treating clinician or ART Unit, the cause of infertility is due to male factors.
Primary cause of male factor infertility diagnosis	1=Idiopathic 2=Genetic – Klinefelter 3=Genetic – Y deletion 4=Genetic – other aneuploidies, single gene 5=Testis damage – cancer treatment 6=Testis damage – other 7=Gonadotrophin deficiency 8=Vasectomy 9=Congenital absence of the vas deferens/cystic fibrosis 10=Obstructive disorder (other) 11=Erectile dysfunction 12=Ejaculatory disorders
Cause of infertility: unexplained	No – in the opinion of the treating clinician or ART Unit, the cause of infertility is not unexplained in the intended parents Yes – in the opinion of the treating clinician or ART Unit, the cause of infertility is unexplained in the intended parents.
Ovarian stimulation via follicle stimulating hormone (FSH)	No – FSH was not administered Yes – FSH administered. Does not include clomiphene or hCG alone unless FSH was also given.

Variable	Data domain
First ever FSH stimulated cycle for OPU	No – not the patient's first ever FSH stimulated cycle Yes – the current cycle is the patient's first ever FSH stimulated cycle with the intention of OPU.
Date of cancellation for cancelled OPU	Date of the last day FSH is administered in a cancelled cycle. DD/MM/YYYY.
OPU date	Date of oocyte pickup. DD/MM/YYYY.
Number of eggs retrieved	Number of eggs retrieved at OPU.
In-vitro maturation (IVM)	Whether IVM took place during the treatment cycle 1=No 2=Yes
Source of sperm	1=a male intended parent 2=a sperm donor outside of the intended parents
Site of sperm used	Site of sperm extraction: ejaculated, epididymal (whether by open biopsy or by PESA), testicular or other.
Sperm quality	The concentration of sperm
DONATION AND RECIPIENT DETAILS	
Age of oocyte/embryo donor	Completed age at time of OPU.
Number of fresh eggs donated	Number of fresh eggs donated to someone else.
Number of fresh eggs received	Number of fresh eggs received from someone else.
Number of fresh embryos donated	Records the number of fresh embryos donated to another patient/couple
Number of fresh embryos received	Records the number of fresh embryos that a patient/couple received from another patient/couple.
OOCYTE CRYOPRESERVATION DETAILS	
Number of oocytes slow frozen	Number of oocytes frozen by slow freezing method in this cycle.
Number of oocytes vitrified	Number of oocytes frozen by vitrification in this cycle.
Number of slow frozen oocytes thawed	Number of slow frozen oocytes thawed in this cycle.
Number of vitrified oocytes warmed	Number of vitrified oocytes warmed in this cycle.
Initial cryopreservation date of thawed/warmed oocytes	DD/MM/YYYY.
FERTILISATION DETAILS	
Number of eggs GIFT	Number of eggs replaced in a GIFT procedure.
Number of eggs IVF	Number of eggs treated (inseminated) with IVF.
Number of eggs ICSI	Number of eggs treated with ICSI.
Number of eggs fertilised normally	Number of eggs fertilised normally.
Intrauterine insemination date	Date of intrauterine insemination procedure (using donated sperm only) DD/MM/YYYY.
Assisted hatching	No – assisted hatching not performed. Yes – where assisted hatching in any form has been performed on any of the embryos (transferred or not).
PRE-IMPLANTATION GENETIC TESTING	
Number of embryos biopsied for invasive PGT	Number of embryos biopsied for invasive PGT
Number of embryos biopsied for non-invasive PGT	Number of embryos biopsied for non-invasive PGT
Number of invasive PGT embryos transferred	Number of invasive PGT embryos transferred
Number of non-invasive PGT embryos transferred	Number of non-invasive PGT embryos transferred

Variable	Data domain
Number of embryos thawed that had invasive PGT performed in a previous cycle	Number of embryos thawed that had invasive PGT performed in a previous cycle
Number of embryos thawed that had non-invasive PGT performed in a previous cycle	Number of embryos thawed that had non-invasive PGT performed in a previous cycle
Primary reason for PGT	1=Aneuploidy screening 2=Single gene variation 3=Chromosomal structural rearrangements (e.g. translocations) 4=Other
EMBRYO CRYOPRESERVATION DETAILS	
Number of cleavage-stage embryos slow frozen	Number of cleavage-stage embryos frozen by slow freezing method in this cycle.
Number of cleavage-stage embryos vitrified	Number of cleavage-stage embryos frozen by vitrification in this cycle.
Number of blastocysts slow frozen	Number of blastocysts frozen by slow freezing method in this cycle.
Number of blastocysts vitrified	Number of blastocysts frozen by vitrification method in this cycle.
Number of slow frozen cleavage embryos thawed	Number of slow frozen cleavage embryos thawed for use in the cycle
Number of vitrified cleavage embryos warmed	Number of vitrified cleavage embryos warmed for use in the cycle
Number of slow frozen blastocysts thawed	Number of slow frozen blastocysts thawed for use in the cycle
Number of vitrified blastocysts warmed	Number of vitrified blastocyst embryos for use in the cycle
Freezing date of thawed/warmed embryos	Initial cryopreservation date of thawed/warmed embryos.
EMBRYO TRANSFER DETAILS	
Embryo transfer date	DD/MM/YYYY Data embryo transfer occurred.
Number of cleavage-stage embryos transferred	Number of cleavage-stage embryos transferred.
Number of blastocysts transferred	Number of blastocyst stage embryos transferred.
Transferred embryos fertilised via ICSI	No – no transferred embryos were fertilised by ICSI. Yes – any embryos transferred were fertilised by ICSI.
PREGNANCY DETAILS	
Clinical pregnancy	A pregnancy that fulfils at least one of the following criteria: 1. Known to be ongoing at 20 weeks 2. Evidence by ultrasound of an intrauterine sac (with or without a fetal heart) 3. Examination of products of conception reveal chorionic villi 4. A definite ectopic pregnancy that has been diagnosed laparoscopically or by ultrasound.
Date pregnancy ended	Date on which birth, miscarriage or termination takes place.
Number of fetal hearts	Number of fetal hearts seen on first ultrasound (intrauterine only).
Ectopic pregnancy	If this pregnancy is an ectopic pregnancy, or a combined ectopic and uterine pregnancy (heterotopic). n–Neither ectopic nor heterotopic e–Ectopic h–Heterotopic
Elective termination of pregnancy	No–pregnancy not terminated. Yes–pregnancy is terminated.
Selective reduction performed	No–If no selective reduction has been performed. Yes–If selective reduction has been performed due to fetal abnormality/other reasons.

Variable	Data domain
Fetal abnormality in a pregnancy ending < 20 weeks or by selective reduction	Fetal abnormality in a pregnancy ending < 20 weeks or by selective reduction.
Maternal complications of pregnancy	Maternal complications of pregnancy.
BIRTH DETAILS	
Number of babies born	Include all liveborn and stillborn babies after 20 weeks gestation or at least 400 grams birthweight.
Caesarean birth	No—other. Yes—birth by planned or emergency caesarean section.
Baby 1 outcome	Liveborn, stillborn or neonatal death.
Baby 1 sex	Male or female.
Baby 1 birthweight	Weight in grams.
Baby 1 abnormality	Describes any known congenital malformation.
Baby 1 date of neonatal death	Date of neonatal death.
Baby 2 outcome	Liveborn, stillborn or neonatal death.
Baby 2 sex	Male or female.
Baby 2 weight	Weight in grams.
Baby 2 abnormality	Describes any known congenital malformation.
Baby 2 date of neonatal death	Date of neonatal death.
Baby 3 outcome	Liveborn, stillborn or neonatal death.
Baby 3 sex	Male or female.
Baby 3 weight	Weight in grams.
Baby 3 abnormality	Describes any known congenital malformation.
Baby 3 date of neonatal death	Date of neonatal death.
Baby 4 outcome	Liveborn, stillborn or neonatal death.
Baby 4 sex	Male or female.
Baby 4 weight	Weight in grams.
Baby 4 abnormality	Describes any known congenital malformation.
Baby 4 date of neonatal death	Date of neonatal death.
TREATMENT COMPLICATIONS	
Admitted with ART morbidity	No – patient was not admitted to hospital with any ART morbidity Yes – woman is admitted to hospital with any condition (excluding any pregnancy-related issues, such as ectopic pregnancy) that could be in any way related to fertility treatment.
Ovarian hyperstimulation syndrome (OHSS)	No – OHSS did not occur Yes – OHSS occurred
Morbidity information and detail	Describes any information related to the female patient's hospital admission or cause of morbidity
Comments	Any comments on this cycle.

Glossary

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

Artificial insemination: a range of techniques for placing sperm into the female genital tract and can be used with ovarian stimulation or in unstimulated cycles. These techniques are referred to as ‘donor insemination’ (DI) in this report.

ART (assisted reproductive technology): treatments or procedures that involve the in vitro handling of human oocytes (eggs) and sperm or embryos for the purposes of establishing a pregnancy. ART does not include artificial insemination.

ART Unit: a facility with a laboratory collecting or preparing human gametes and/or embryos for therapeutic service, possibly across a range of sites of clinical activity. Where the collection of gametes/embryos takes place at a different site to the preparation, the two sites are considered to be a single ART Unit.

Assisted hatching: when the outer layer of the embryo, the zona pellucida, is either thinned or perforated in the laboratory to aid ‘hatching’ of the embryo, the aim being to potentially improve the chance of implantation in the uterus.

Autologous cycle: an ART treatment cycle in which a woman intends to use, or uses, her own oocytes or embryos. GIFT cycles are classified separately from autologous cycles.

Birth: a birth event in which one or more babies of 20 weeks or more gestation or of 400 grams or more birthweight is born, either liveborn or stillborn.

Blastocyst: an embryo comprising around 100 cells usually developed by five or six days, from the day of egg collection.

Caesarean section: an operative birth by surgical incision through the abdominal wall and uterus.

Cleavage-stage embryo: an embryo comprising about eight cells usually developed one to four days, from the day of egg collection.

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 reveals chorionic villi, or
- an ectopic pregnancy has been diagnosed by laparoscope or by ultrasound.

Ovarian stimulation: medical treatment to induce the development of multiple ovarian follicles in order to obtain multiple oocytes at oocyte pick-up (OPU).

Cryopreservation: freezing oocytes or embryos for potential future ART treatment.

Cycle: when a medical procedure is attempted or takes place, or when certain laboratory procedures are undertaken. This is further broken down to specific terms, ‘treatment cycles’ and ‘lab-only cycles.’ Please refer to the glossary for definitions of these specific terms.

DI (donor insemination) cycle: an artificial insemination cycle in which sperm not from the woman’s partner (donor sperm) is used.

Discontinued cycle: an ART cycle that does not proceed to oocyte pick-up (OPU) or embryo transfer.

Donation cycle: an ART treatment cycle where a female patient who is not an intended parent, intends to donate or donates her oocytes/embryos to others, or where a female intended parent provides oocytes/embryos to a female partner who is also an intended parent. A donation cycle may result in the donation of either oocytes or embryos to a recipient(s). The use of donor sperm does not alter the donor status of the cycle.

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.

Embryo transfer: a procedure whereby embryo(s) are placed in the uterus or fallopian tube. The embryo(s) can be fresh or thawed following cryopreservation and may include the transfer of cleavage-stage embryos or blastocysts.

Freeze-all (freeze-only) cycle: a cycle where all oocytes or embryos that are potentially suitable for transfer are cryopreserved for potential future use.

Fresh cycle: an ART treatment cycle in which:

- i) oocyte retrieval is intended and oocytes and/or embryos are used, or intended to be used, for freezing or fresh embryo transfer or;
- ii) oocyte(s) are warmed or thawed and embryos are used, or intend to be used, for fresh embryo transfer.

Gestational age: the completed weeks of gestation of the fetus. This is calculated as follows:

- cycles with embryos transferred: (pregnancy end date – embryo transfer date + 16 days) for transfer of cleavage-stage embryos and (pregnancy end date – embryo transfer date + 19 days) for transfer of blastocysts
- GIFT cycles: (pregnancy end date – OPU date) + 14 days
- DI cycles: (pregnancy end date – date of insemination) + 14 days.

GIFT (gamete intrafallopian transfer): an ART treatment where mature oocytes and sperm are placed directly into a woman's fallopian tubes so that in vivo fertilisation may take place. GIFT cycles are classified separately from autologous cycles.

Heterotopic pregnancy: a double gestation pregnancy in which implantation takes place both inside and outside the uterine cavity.

ICSI (intracytoplasmic sperm injection): a procedure whereby a single sperm is injected directly into the oocyte outside of the body to aid fertilisation. If an embryo transfer cycle involves the transfer of at least one embryo created using ICSI, it is counted as an ICSI cycle.

IVF (in vitro fertilisation): an ART procedure that involves the oocyte being placed with sperm outside of the body to achieve fertilisation.

Lab-only cycle: where there is no patient under monitoring or receiving treatment in the cycle and no intention to transfer an embryo in the cycle and only laboratory procedures are performed.

Live birth: according to the World Health Organization (WHO) definition, a live birth is defined as “the complete expulsion or extraction from the mother of a baby, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of the voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered liveborn” (AIHW 2022). In this report, live births are included if they meet the WHO definition and if they are of 20

weeks or more gestation or 400 grams or more birthweight. Live births are counted as birth events, e.g. the birth of one or more liveborn infants. For example, where a multiple birth (twins, triplets) results in a liveborn and a stillborn baby, this is still considered one live birth.

Low birthweight: a birthweight of less than 2,500 grams.

Nulliparous: refers to a woman who has never had a pregnancy of 20 weeks or more gestation regardless of whether they were achieved by fertility treatment or a different partner.

OHSS (ovarian hyperstimulation syndrome): the complication of ovulation stimulation therapy, which involves the administration of follicle stimulating hormone (FSH). OHSS symptoms include abdominal pain and fluid retention.

Oocyte (egg): a female reproductive cell.

OPU (oocyte pick-up): the procedure to collect oocytes from ovaries, usually by ultrasound-guided transvaginal aspiration and rarely by laparoscopic surgery.

Parity: a classification of a woman in terms of the number of previous pregnancies experienced that reached 20 weeks or more gestation regardless of whether they were achieved by fertility treatment or a different partner.

Parous: refers to a woman who has had at least one previous pregnancy of 20 weeks or more gestation regardless of whether they were achieved by fertility treatment or a different partner.

PGT (preimplantation genetic testing): a procedure where DNA from embryos is tested for chromosomal disorders or genetic diseases before embryo transfer. This term includes PGT for aneuploidies (PGT-A); PGT for monogenic/single gene defects (PGT-M); and PGT for chromosomal structural rearrangements (PGT-SR).

Perinatal death: a stillbirth or neonatal death of at least 20 weeks gestation or at least 400 grams birthweight.

Preterm: a gestation of less than 37 weeks.

Recipient cycle: an ART treatment cycle in which a female patient who is an intended parent receives oocytes/embryos from another individual/couple who is not an intended parent, or where a female intended parent receives oocytes/embryos from a female partner who is also an intended parent, to achieve a pregnancy.

Secondary sex ratio: the number of male liveborn babies per 100 female liveborn babies.

Singleton: refers to the birth of only one child during a single birth event.

Stillbirth: the birth of an infant after 20 or more weeks gestation or 400 grams or more birthweight that shows no signs of life.

Surrogacy arrangement: an arrangement where a female patient, known as the 'gestational carrier' or 'surrogate' agrees to carry a child for another person or couple, known as the 'intended parent(s)', with the intention that the child will be raised by the intended parent(s). The oocytes and/or sperm used to create the embryo(s) in the surrogacy cycle can be either from the intended parents or from a donor(s).

Thaw cycle: an ART treatment cycle in which cryopreserved embryos are warmed or thawed with the intention of performing an embryo transfer.

Thawed embryo: an embryo thawed after cryopreservation. It is used in thaw cycles or lab-only cycles.

Treatment cycle: involves an attempted/actual medical procedure being carried out on a female patient and includes the following scenarios:

- ovarian stimulation with the intention of oocyte collection in autologous or donation cycle
- attempted/actual oocyte collection, whether in a stimulated or unstimulated, autologous or donation cycle
- attempted/actual oocyte thaw with the intention of fertilisation and embryo transfer
- attempted/actual embryo thaw with the intention of embryo transfer
- insemination of donated sperm as part of an intrauterine insemination (IUI) cycle.

Vitrification: an ultra-rapid cryopreservation method that prevents ice formation within the suspension which is converted to a glass-like solid.

Note: The International Committee Monitoring Assisted Reproductive Technologies (ICMART) has published an Infertility and Fertility Care glossary for the terms used in ART data collections (Zegers-Hochschild et al. 2017). However, the terminology used in this report may differ from that in the ICMART glossary.

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List of Figures

Figure 1: Live birth rate per initiated autologous fresh (excluding freeze-all) and thaw and recipient cycle (%) among ART Units, Australia and New Zealand, 2024.....	14
Figure 2: Progression of autologous fresh cycles, Australia and New Zealand, 2024.....	16
Figure 3: Live birth rate (with 95% confidence intervals) per OPU cycle (excluding freeze-all) by female patient's age at start of a treatment cycle, Australia and New Zealand, 2024	18
Figure 4: Progression of autologous thaw cycles, Australia and New Zealand, 2024	22
Figure 5: Live birth rate (with 95% confidence intervals) per initiated autologous thaw cycle by female patient's age at start of a treatment cycle, Australia and New Zealand, 2024	24
Figure 6: Progression of fresh and thaw oocyte/embryo recipient cycles, Australia and New Zealand, 2024.....	30
Figure 7: Conservative cumulative live birth rates (complete cycle) for all women who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 and followed until 31 December 2024 or the first treatment-dependent live birth.....	64

List of Tables

Table 1: Number of initiated ART cycles by treatment type, Australia and New Zealand, 2024	5
Table 2: Number of autologous and recipient cycles by intended parents and treatment type, Australia and New Zealand, 2024	7
Table 3: Number of autologous and recipient cycles by female patient age and treatment type, Australia and New Zealand, 2024	7
Table 4: Number of autologous and recipient cycles by female patients' partner age and treatment type, Australia and New Zealand, 2024	8
Table 5: Number of autologous and recipient cycles by parity and treatment type, Australia and New Zealand, 2024.....	9
Table 6: Number of autologous and recipient cycles by intended parent cause of infertility, Australia and New Zealand, 2024	10
Table 7: Number of autologous and recipient cycles by male intended parent primary cause of infertility, Australia and New Zealand, 2024	11
Table 8: Number of autologous and recipient cycles with fertilisation attempted by treatment type and procedure, Australia and New Zealand, 2024	12
Table 9: Number of autologous and recipient embryo transfer cycles by number of embryos transferred and female patient age, Australia and New Zealand, 2024	12
Table 10: Number of embryo transfer cycles by treatment type and stage of embryo development, Australia and New Zealand, 2024	13
Table 11: Number of embryo transfer cycles by cryopreservation method and stage of embryo development, Australia and New Zealand, 2024	13
Table 12: Outcomes of autologous fresh cycles by female patient age, Australia and New Zealand, 2024.....	17
Table 13: Outcomes of autologous fresh cycles by cause of infertility, Australia and New Zealand, 2024.....	19
Table 14: Outcomes of autologous fresh cycles by male intended parent principal cause of infertility, Australia and New Zealand, 2024	20
Table 15: Outcomes of autologous fresh embryo transfer cycles by stage of embryo development and number of embryos transferred, Australia and New Zealand, 2024.....	21
Table 16: Outcomes of autologous thaw cycles by female patient age, Australia and New Zealand, 2024.....	23
Table 17: Outcomes of autologous thaw cycles by intended parent cause of infertility, Australia and New Zealand, 2024	25
Table 18: Outcomes of autologous thaw cycles by male intended parent primary cause of infertility, Australia and New Zealand, 2024	26
Table 19: Outcomes of autologous thaw embryo transfer cycles by stage of embryo development and number of embryos transferred, Australia and New Zealand, 2024.....	27
Table 20: Outcomes of autologous thaw embryo transfer cycles by stage of embryo development and embryo freezing methods, Australia and New Zealand, 2024	28
Table 21: Number of oocyte/embryo donation cycles by donor age, Australia and New Zealand, 2024	29
Table 22: Number of oocyte/embryo donation cycles to intended parents, Australia and New Zealand, 2024.....	29

Table 23: Outcomes of oocyte/embryo recipient cycles by treatment type, Australia and New Zealand, 2024.....	31
Table 24: Outcomes of oocyte/embryo recipient cycles by recipient age, Australia and New Zealand, 2024.....	31
Table 25: Outcomes of oocyte/embryo recipient cycles by donor age, Australia and New Zealand, 2024.....	32
Table 26: Outcomes of oocyte/embryo recipient embryo transfer cycles by stage of embryo development and number of embryos transferred, Australia and New Zealand, 2024.....	33
Table 27: Outcomes of oocyte/embryo recipient thaw cycles by stage of embryo development and embryo freezing methods, Australia and New Zealand, 2024	33
Table 28: Early pregnancy loss by pregnancy outcome and maternal age and number of embryos transferred, Australia and New Zealand, 2024.....	35
Table 29: Births by birth outcome and treatment type, Australia and New Zealand, 2024.....	36
Table 30: Births by gestation and maternal age and number of embryos transferred, Australia and New Zealand, 2024	37
Table 31: Births by method of birth and maternal age, Australia and New Zealand, 2024.....	38
Table 32: Babies by gestational age and plurality, Australia and New Zealand, 2024	40
Table 33: Liveborn babies by birthweight group and plurality, Australia and New Zealand, 2024	41
Table 34: Perinatal mortality of babies by type of death and plurality, Australia and New Zealand, 2024	42
Table 35: Outcomes of surrogate/gestational carrier cycles by number of embryos transferred, Australia and New Zealand, 2024	43
Table 36: Number of autologous fresh fertility preservation cycles for female patients by age and treatment type, Australia and New Zealand, 2024	44
Table 37: Number of autologous, recipient, surrogacy and lab-only cycles with PGT performed in that cycle, by main reason for PGT, Australia and New Zealand, 2024.....	45
Table 38: Number of autologous, recipient, surrogacy and lab-only cycles with PGT performed in that cycle, by female intended parent age, Australia and New Zealand, 2024	45
Table 39: Stage/outcome of autologous, recipient and surrogacy cycles with PGT performed, by treatment type, Australia and New Zealand, 2024	45
Table 40: Stage/outcome of autologous, recipient and surrogacy cycles with PGT performed, by female patient age, Australia and New Zealand, 2024	46
Table 41: Outcomes of DI cycles by female patient age, Australia and New Zealand, 2024	48
Table 42: Number of fresh cycles by stage/outcome of treatment, Australia and New Zealand, 2020–2024.....	49
Table 43: Number of thaw cycles by stage/outcome of treatment, Australia and New Zealand, 2020–2024.....	50
Table 44: Outcomes of fresh and thaw cycles following OPU, Australia and New Zealand, 2020–2024	51
Table 45: Number of births following ART treatment by gestation, Australia and New Zealand, 2020–2024.....	52
Table 46: Number of fresh and thaw autologous cycles by women’s age group, Australia and New Zealand, 2020 – 2024.....	53
Table 47: Number of embryo transfer cycles by treatment type, Australia and New Zealand, 2020–2024.....	54

Table 48: Number of thaw embryo transfer cycles by cryopreservation method and stage of embryo development, Australia and New Zealand, 2020–2024	55
Table 49: Percentage of embryo transfer cycles by number of embryos transferred, Australia and New Zealand, 2020–2024.....	56
Table 50: Women undertaking autologous fresh and/or thaw cycles by number of cycles, Australia and New Zealand, 2024	57
Table 51: Women undertaking autologous fresh cycles by number of cycles, Australia and New Zealand, 2024.....	58
Table 52: Women undertaking autologous thaw cycles by number of cycles, Australia and New Zealand, 2024.....	59
Table 53: Number of complete cycles by women's age group for all women who started their first autologous ovarian stimulation cycle (excluding freeze-all cycles ^(a)) between 1 January 2021 and 31 December 2022, Australia and New Zealand	62
Table 54: Cycle-specific and cumulative live birth rates (complete cycle) for all women who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 ^(a) and followed until 31 December 2024 or the first treatment-dependent live birth...	63
Table 55: Cycle-specific and cumulative live birth rates (complete cycle) for women aged less than 30 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 ^(a) and followed until 31 December 2024 or the first treatment-dependent live birth	65
Table 56: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 30-34 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 ^(a) and followed until 31 December 2024 or the first treatment-dependent live birth.....	66
Table 57: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 35-39 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 ^(a) and followed until 31 December 2024 or the first treatment-dependent live birth.....	67
Table 58: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 40-44 who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 ^(a) and followed until 31 December 2024 or the first treatment-dependent live birth.....	68
Table 59: Cycle-specific and cumulative live birth rates (complete cycle) for women aged 45 or more who started their first autologous ovarian stimulation cycle in Australia and New Zealand during 2021-2022 ^(a) and followed until 31 December 2024 or the first treatment-dependent live birth	69

There were **113,905** ART cycles reported from Australian and New Zealand fertility clinics in 2024, resulting in **20,668** liveborn babies.