Index

Figures and tables appear in bold typeface.

abnormalities after freezing, 63
congenital, 38–39
cytoplasm, 54–58, 115 from vitrification, 89–90 age and cancer patient ovulation induction, 48 and fertility, 5 and oocyte quality, 42 for oocyte cryopreservation, 12 for oocyte or ovarian tissue cryopreservation, 15–17 aneuploidy, 22–23 animal studies, 18–22, 33, 114 births. See also fertility after oocyte cryopreservation, 38 first human, 21 from animal oocytes, 20 from oocytes with propandiol, 24 from vitrification, 33 in ovarian cancer patient, 48 most recent, 26 cancer and reproductive functioning, 4–5 egg storage in, 44–48 fertility strategies, 5–10, 26 cardiac screening, 15 clinical management applications, 21–34 database registration and updating, 124–125 egg storage, 42–48 for multiple ovulation induction, 42 lab configuration and equipment, 49 procedure for oocyte cryopreservation, 49–65 staffing, 134 timing, 65–69 tricks and secrets, 135–136 comparison between methods, 114–117, 132. See also vitrification, slow freezing congenital abnormalities, 38–39 Cytoleaf, 33, 34 cryoprotectants and vitrification, 89–90 non-permeating. See sucrose permeating. See propandiol. See ethylene glycol. See DMSO Cryotop, 91, 94, 98, 104 Cryotop, 33, 3478, 100, 91, 94–95, 106, 107 cytoplasm. See also meiotic spindles abnormalities, 54–58, 63, 115 and sperm injection, 23, 25 damage. See abnormalities database registration and updating, 124–125 devices. See materials and equipment Dickey-Wicker amendment, 3 DMSO, 23, 33, 70, 90 egg storage in a standard freezing cycle, 42 in cancer patients, 44–48 in polycystic ovary syndrome, 43–44 to avoid ovarian hyperstimulation syndrome, 43 embryo check, 136 destiny choices, 1–2 legal definitions, 2–4 equipment. See materials and equipment ethical indications, 1–2, 18, 42 ethylene glycol, 33, 70, 90 FCOG. See French College of Obstetricians and Gynaecologists fertility. See also births and cancer, 5–10, 26 and polycystic ovary syndrome, 43–44 saving indications, 4–15 freezer. See programmable freezer freezing technique. See also vitrification. See also slow freezing common procedures in, 25 open vessel device, 22 procedures in, 81–85 tricks and secrets, 135–136 French College of Obstetricians and Gynaecologists, 15 germinal vesicle, 51, 54 giant oocytes, 55, 63 gonadotropin therapy, 42, 44. See also sperm

High Security Vitrification Kit, 91, 92, 95, 103, 107 high speed freezing. See vitrification HOPE. See The Human Oocyte Preservation Experience hormone replacement therapy, 14 HSV. See High Security Vitrification Kit human studies, 21–34 ICSI. See intracytoplasmic sperm injection immature oocytes, 8–10, 33 in vitro fertilization programs and embryo transfer, 1 indications for human oocyte cryopreservation ethical, 1–2, 18, 42 family planning, 15–17 fertility-saving, 4–15 laboratory flexibility, 15
indications for human oocyte cryopreservation (cont.)
literature review, 73
intracellular ice, 20, 69
intracytoplasmic sperm injection, 23
IVF-ET. See in vitro fertilization programs and embryo transfer
Law 40/2004, 4
legal definitions of embryo, 2–4
indications for human oocyte cryopreservation, 1, 2–4, 18, 21
liquid nitrogen in vitrification, 90, 111–113
safety concerns, 117, 118
management. See program management. See clinical management
materials and equipment.
See also programmable freezer
slow freezing, 74–75
vitrification, 92–106, 107
warming, 90–91, 92
mature oocytes, 33
maturity
cumulus-corona-oocyte complex, 49–53
oocyte nuclear, 53, 54
Mazur’s equation, 20.
See also temperature sensitivity
meiotic spindles.
See also cytoplasm and vitrification, 34
integrity of, 114–115, 116
laboratory evaluation, 61–62
metaphases I and II, 51, 54
minimum volume during vitrification, 109
tricks and secrets, 136
multiple ovulation induction, 42, 44, 45

OHSS. See ovarian hyperstimulation syndrome
oocyte cryopreservation and birth anomalies, 38, 39
and Turner’s syndrome, 10–15, 12–13
database registration and updating, 124–125
early research in, 18–22
efficacy of, 25
program management, 126
safety concerns, 18, 22–23, 24, 33, 34–41
survival rates, 25
oocyte degeneration.
See abnormalities
oocyte donation, 2, 11, 14, 33
oocyte grading, 63–65
oocyte storage during cryopreservation, 101
in programmable freezer, 82–84
long term, 120–123
safety, 118–123
ovarian hyperstimulation syndrome, 25, 43, 44, 45, 48
ovarian tissue transplant, 5, 12
PCOS. See polycystic ovary syndrome
perivitelline space, 58
Planer freezer, 84
PolScope, 61–62, 113, 115
polycystic ovary syndrome, 43–44
post-mature oocyte, 53
pregnancy risks with Turner’s syndrome, 13–15
progestinic therapy, 45
program management, 126
programmable freezer, 81, 82, 84–85, 115.
See also materials and equipment
PROH. See propanediol prophanol, 70, 114
prophase I. See germinal vesicle PVS. See perivitelline space
rapid thawing, 82, 85–88.
See also slow freezing
refractile body, 55, 63
safety
laboratory, 118–119
storage, 118–123
sample transportation, 117, 123
seedling, 82, 116
slow freezing.
See also vitrification.
See also rapid thawing.
See also freezing technique.
See also comparison between methods
clinical efficacy of, 34, 38
clinical efficacy trial, 25
cost of, 128–130
history of, 71–73
in DMSO, 23, 33
laboratory procedure, 81, 82, 83, 85, 86, 88
materials and equipment, 74–75
principles of, 71
safety of, 20
solution recipes, 75, 81
with propandiol, 24, 25, 33
slush-liquid nitrogen. See liquid nitrogen
social indication. See family planning
solutions
tricks and secrets, 135
warming, 109–111
sperm. See also gonadotropin therapy
and freezing for insemination, 15
intracytoplasmic injection, 23, 26
stagnation of research, 23–24
stimulation protocol, 42
storage
for cancer patients, 45
oocyte, 82–84, 90, 101, 118–123
studies on humans or animals, 18–34, 114
sucrose, 25, 33, 90, 135
temperature sensitivity.
See also Mazur’s equation and immature oocytes, 23
and meiotic spindle, 23, 114
in vitrification, 90
The Human Oocyte Preservation Experience, 5

© in this web service Cambridge University Press
See also vitrification. See also slow freezing. See also freezing technique. See also comparison between clinical results, cost of, history of, 33–83; 34; 89–90; 130–132.

Materials and equipment, 92–106; principles of, 89; procedure, 106; 110; solutions for oocyte, 91–92; temperature of exposition, 110–111; warming procedure and equipment, 34, 90–91; warming solutions, 109–111; water replacement, 69–70; zona pellucida, 23, 49, 55, 63, 90, 151.