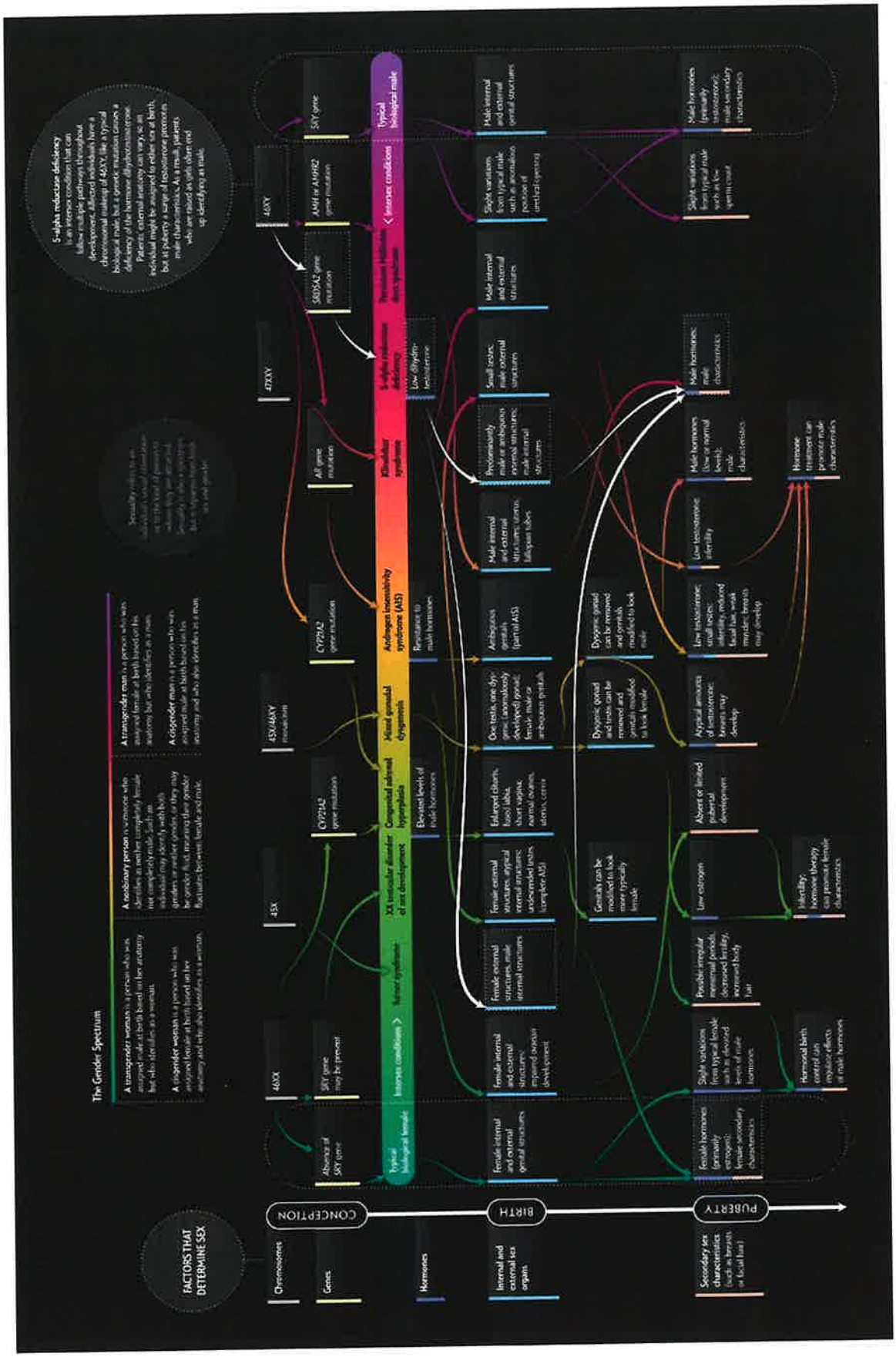
The Gender Spectrum
FACTORS THAT DETERMINE SEX
CONCEPTION
BIRTH
PUBERTY
Chromosomes
Genes
Hormones
Internal and external sex organs
Secondary sex characteristics (such as breasts or facial hair)
46XX
45X
47XXY
45X/46XY mosaicism
46XY
Absence of SKY gene
SRY gene may be present
CYP21A2 gene mutation
CYP19A2 gene mutation
AR gene mutation
SRD5A2 gene mutation
AMH or AMHR2 gene mutation
SRY gene
Typical biological female
Intersex conditions
Turner syndrome
X chromosome disorder of sex development
Congenital adrenal hyperplasia
Mixed gonadal dysgenesis
Androgen insensitivity syndrome (AIS)
Klinefelter syndrome
5-alpha reductase deficiency
Persistent Müllerian duct syndrome
Intersex conditions
Typical biological male
Female external structures, male internal structures
Female internal and external structures; external genitalia underdeveloped
Female internal structures; atypical internal structures; undescended testes (complete AIS)
Female internal and external genital structures
Enlarged clitoris, fused labia, short vagina, normal ovaries, uterus, cervix
One testis, one dysgenetic (underdeveloped) gonad; female-like or ambiguous genitals
Ambiguous genitals (partial AIS)
Resistance to male hormones
Dysgenic gonad and testes can be removed and genitals modified to look female
Dysgenic gonad can be removed and genitals modified to look male
Gonads can be modified to look more typically female
Elevated levels of male hormones
Absent or limited pubertal development
Atypical amounts of testosterone; breasts may develop
Low testosterone; small testes; infertility, reduced facial hair, male muscles; breasts may develop
Low testosterone; infertility
Low estrogen
Possible irregular menstrual periods, decreased fertility, increased body hair
Female hormones (primarily estrogen); female secondary characteristics
Slight variations from typical female traits; elevated levels of male hormones
Infertility; hormone therapy can promote female characteristics
Hormonal birth control can regulate effects of male hormones
Female internal and external genital structures
Predominantly male or ambiguous internal structures; male external structures
Small penis; male external structures
Male internal and external structures
Male internal and external structures; testes; fallopian tubes
Male hormones (low or normal levels); male characteristics
Male hormones; male characteristics
Hormone treatment can promote male characteristics
Slight variations from typical male traits; abnormalities position of urethral opening
Slight variations from typical male traits; low sperm count
Male hormones (primarily testosterone); male secondary characteristics
Male internal and external genital structures
Low dihydro-testosterone
A cisgender woman is a person who was assigned female at birth based on her anatomy and who identifies as a woman.
A cisgender man is a person who was assigned male at birth based on his anatomy and who also identifies as a man.
A transgender woman is a person who was assigned male at birth but identifies as a woman.
A transgender man is a person who was assigned female at birth but identifies as a man.
A nonbinary person is someone who identifies as neither completely female nor completely male. Such an individual may identify with both genders, or neither gender, or they may be gender fluid, meaning their gender fluctuates between female and male.
Sexuality refers to an individual's sexual orientation or to the kind of person to whom they are attracted. Sexuality is distinct from gender. But like gender, it is a social construct.
5-alpha reductase deficiency is an intersex condition that can follow multiple pathways through development. Affected individuals have a chromosomal makeup of 46XY, like a typical biological male, but a genetic mutation causes a deficiency of the hormone dihydrotestosterone.
Patients' external anatomy can vary, so an individual might be assigned to either sex at birth, but at puberty a surge of testosterone promotes male characteristics. As a result, patients who are raised as girls often end up identifying as male.