

BEHAVIORAL SCIENCES

MD3

BEHAVIORAL SCIENCES

1. Developmental Life Cycle
1. Theories of Learning and Behavioural Modification
2. Defense Mechanisms Psychological Health and Testing
3. Substance Use Disorders
4. Sleep and Sleep Disorders
5. Psychiatric (DSM-5) Disorders
6. Psychopharmacology
7. Brain Function and Neurocognitive Disorders
8. Ethics, Law, and Physician Behavior
9. Health Care Delivery Systems

BEHAVIORAL
SCIECNES

DEVELOPMENTAL LIFE CYCLE

DEVELOPMENTAL LIFE CYCLE

Learning Objectives

- Demonstrate understanding of stages and milestones of development
- Answer questions about sexuality and gender identity
- Demonstrate understanding of aging and issues of death and bereavement

DEVELOPMENTAL LIFE CYCLE

STAGES OF DEVELOPMENT

Development occurs along multiple lines:

- Physical,
- Cognitive,
- Intellectual, and
- Social

DEVELOPMENTAL LIFE CYCLE

Newborns

Newborns have certain preferences:

- Large, bright objects with lots of contrast
- Moving objects
- Curves vs. lines
- Complex vs. simple designs
- Facial stimuli

DEVELOPMENTAL LIFE CYCLE

Neonatal Reflexes

| Reflex | Features | Onset | Extinction | CNS Origin |
|----------------|--|-------|------------|------------------------------|
| Moro (startle) | Arms and legs extend when child is startled | Birth | 5 months | Brain stem/vestibular nuclei |
| Grasp | Fingers curl around object placed in hand | Birth | 5 months | Brain stem/vestibular nuclei |
| Rooting | Baby turns face toward direction of touch | Birth | 5 months | Brain stem/trigeminal |
| Babinski | <ul style="list-style-type: none">• Not pathological in newborns• Stroking bottom of foot causes the toe to move upward (dorsiflexion) instead of downward (hallux flexion); normal in adults | Birth | 1 year | Spinal cord |

DEVELOPMENTAL LIFE CYCLE

Milestones

- Skills achieved by a certain age are called **milestones**, which are normative markers at median ages.
- Some children develop more slowly and some more quickly, so milestones are
- only approximate and do not have to occur concomitantly. Thus, a child may
- match the milestones for cognitive development but show slower growth in the
- social area.

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Stranger anxiety is distress in the presence of unfamiliar people.

Peaks at age eight months

Can last until age one year

Separation anxiety is distress following separation from a caretaker.

Onset at age eight months

Can last until age two years

DEVELOPMENTAL LIFE CYCLE

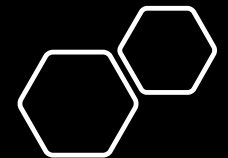
Cognitive Development Theories * Based on Age

- Erikson
- Freud
- Piaget

| Erikson | Freud | Piaget |
|---|---|---|
| <p>Trust vs. mistrust</p> <ul style="list-style-type: none"> • Develop feeling of trust that their wants will be satisfied • If parent is not attentive, will learn to mistrust | <p>Oral</p> <ul style="list-style-type: none"> • Mouth is the main site of gratification; manifested by chewing, biting, and sucking | <p>Sensorimotor</p> <ul style="list-style-type: none"> • Begin to learn through sensory observation • Gain control of motor functions through activity, exploration, and manipulation of the environment • Achieve object permanence |

DEVELOPMENTAL LIFE CYCLE

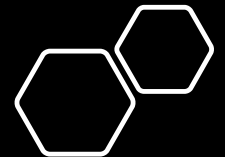
Birth – 2 Year



| | | |
|--|---|--|
| <p>Autonomy vs. shame/doubt</p> <ul style="list-style-type: none"> • Have sense of mastery over themselves and their drives; can be cooperative or stubborn • Gain a sense of separateness from others | <p>Anal</p> <ul style="list-style-type: none"> • Anus and surrounding area is main site of gratification; primarily involved in bowel functions and bladder control • If harsh toilet training, may become “anally fixated” (obsessive-compulsive personality disorder) | <p>Preoperational</p> <ul style="list-style-type: none"> • Use symbols and language more extensively • Are egocentric, use animistic thinking, and have a sense of imminent justice • See death as reversible • Lack the law of conservation |
|--|---|--|

DEVELOPMENTAL LIFE CYCLE

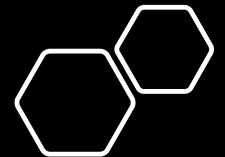
2 Year – 4 Year



| | | |
|---|---|--|
| <p>Initiative vs. guilt</p> <ul style="list-style-type: none">• Initiate both motor and intellectual activity• Start to become sexually curious• Start to develop sibling rivalry | <p>Phallic</p> <ul style="list-style-type: none">• Genital area is main site of gratification• Penis envy and fear of castration are evident• Increase in genital masturbation with fantasies involving opposite-sex parent (“Oedipal complex”) | |
|---|---|--|

DEVELOPMENTAL LIFE CYCLE

4 Year – 6 years



| Age | Erikson | Freud | Piaget |
|------------|--|---|--|
| 6–12 years | <p>Industry vs. inferiority</p> <ul style="list-style-type: none"> • Enter programs of learning; able to work and acquire adult skills • Learn they are able to master and complete a task | <p>Latency</p> <ul style="list-style-type: none"> • Formation of the superego; resolution of the Oedipal complex • Sexual interests during this period are believed to be quiescent • Sublimation of sexual energy into energetic learning and play activities | <p>Concrete operational</p> <ul style="list-style-type: none"> • Replace egocentricity with operational thought, thus can see things through others' perspectives • See death as irreversible (age 10) • Have the law of conservation |

DEVELOPMENTAL LIFE CYCLE

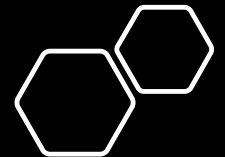
6-12 Years



| | | | |
|---------------|---|---|---|
| Teenage years | <p>Identity vs. role confusion</p> <ul style="list-style-type: none">• Develop group identity• Develop preoccupation with appearances• Begin to deal with morality and ethics• Experience “identity crisis” at end of this stage (which Piaget called normative) | <p>Genital</p> <ul style="list-style-type: none">• Capacity for true intimacy | <ul style="list-style-type: none">• Formal operational abstract thinking acquired |
|---------------|---|---|---|

DEVELOPMENTAL LIFE CYCLE

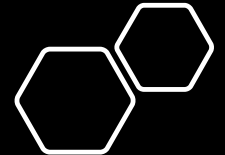
Teenage Years



| | | | |
|-----------------|---|--|--|
| Early adulthood | Intimacy vs. isolation <ul style="list-style-type: none"><li data-bbox="394 467 892 646">• Experience intimacy of sexual relations and friendships (all deep associations are present)<li data-bbox="394 670 840 800">• Develop an ability to care and share with others without fear of losing self | | |
|-----------------|---|--|--|

DEVELOPMENTAL LIFE CYCLE

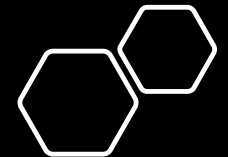
Early Adulthood



| | | | |
|----------------|--|--|--|
| Late adulthood | <p>Integrity vs. despair</p> <ul style="list-style-type: none">• Experience sense of satisfaction with one's life; allows for an acceptance of one's place in life cycle | | |
|----------------|--|--|--|

DEVELOPMENTAL LIFE CYCLE

Late adulthood



DEVELOPMENTAL LIFE CYCLE

SEXUALITY

Gender identity is a child's sense of maleness or femaleness. It is established by age 3.

Sexual identity is determined by secondary sexual characteristics.

- **Gender dysphoria** is a "disconnect" between gender identity and sexual identity. Boys > girls.

- **Gender role** is determined by behaviours exhibited by a child. It can be congruent or incongruent to the child's gender identity (usually congruent).

Sexual orientation is determined by gender identity:

- Homosexuality: same gender identity (can be ego-syntonic or ego-dystonic; when ego-dystonic, is pathological)
- Heterosexuality: Opposite gender identity
- Bisexuality: Either gender identity
- Asexuality: Neither gender identity

Masturbation is normal at all ages and equal in both genders. When it interferes with normal functioning, it is pathological.

- Exploring human sexuality is normal, especially during teenage years, even with same sex partners.

DEVELOPMENTAL LIFE CYCLE

Tanner Stages of Development

| | Female | Both | Male |
|--------------|---|-----------------------------------|--|
| Stage | Breast | Pubic hair | Genitalia |
| I | Preadolescent | None | Childhood size |
| II | Breast bud | Sparse, long, straight | Enlargement of scrotum, testes |
| III | Areolar diameter enlarges | Darker, curling, increased amount | Penis grows in length; testes continue to enlarge |
| IV | Secondary mound; separation of contours | Coarse, curly, adult type | Penis grows in length/breadth; scrotum darkens, testes enlarge |
| V | Mature female | Adult, extends to thighs | Adult shape/size |

DEVELOPMENTAL LIFE CYCLE

AGING

The human body undergoes significant changes with age that have both medical and psychological implications for your patients. The leading causes of death for patients age >65 include:

- Heart disease
- Malignancy
- Cerebrovascular disease
- Chronic lower respiratory disease
- As such, preventive care and primary or secondary prevention becomes crucial to patient health, improved quality of life, and survival.

Some factors can be modified by behavioural change:

- Smoking = smoking cessation
- Poor diet = low sodium diet (CHF), low cholesterol diet (ACS), low sugar (DM)
- Physical inactivity = exercise
- Geriatrics is the subspecialty dedicated to the science of providing medical care to the elderly. As a physician, regardless of specialty, you are likely to encounter and treat elderly patients

DEVELOPMENTAL LIFE CYCLE

- **Medical**
- Medical care of the geriatric population includes preventive care, vaccinations, and screening.
- **Preventive care** may include aspirin therapy and lipid management.
- **Vaccinations:** illness is usually associated with higher morbidity and mortality with older patients, so it is important they receive certain vaccinations.
 - Tetanus
 - Diphtheria
 - Pneumococcus
 - Influenza

DEVELOPMENTAL LIFE CYCLE

Screening: The 2 main areas of screening are cancer and abdominal aortic aneurysm. For older patients, the rule of thumb is to evaluate comorbidities, functionality, and life expectancy before making recommendations for screening tests. In general, the survival screening benefit is not seen unless the patient's life expectancy is >5 years.

– **Cancer** screening: Ages for screening are usually standardized: Breast cancer: women age >40

Colorectal cancer: Men and women age >50

– **Abdominal aortic aneurysm** screening: men age 65–75

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Psychiatric

- **Depression screening**
 - Age >65 is a risk factor for suicide.
 - Screening appropriate especially when patients have a terminal or debilitating illness.
- **Adjustment disorder**
 - Many life changes can be stressors that require coping mechanisms.
 - Some life changes (e.g., retirement, even when voluntary; illness, etc.) can cause an adjustment disorder

DEVELOPMENTAL LIFE CYCLE

Physiological

- On the exam, you will be expected to recognize physiological changes that are not pathological, but rather due to aging.

- **Sexuality**

- Sexual interest and activity does not decline significantly with aging

- Best predictor of sexual activity in the elderly is availability of a partner

Changes in men:

Slower erection, longer refractory period, more stimulation needed

Changes in women:

Vaginal dryness and thinning

- **Sleep**

- Early morning wakefulness

- Less deep sleep

- REM sleep does not significantly decrease until age >85

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Financial

Several factors contribute to financial instability in the elderly:

- Inadequate fixed income
 - Social Security (government-provided earned benefit): eligible adults who have worked >40 quarters; dependents of eligible adult (typically the spouse who was a homemaker)
 - Pensions (employer-provided earned benefits)
 - Investment income
- High medical costs
- Low financial literacy: elderly can be exploited by unscrupulous investment advisors and sometimes family members

DEVELOPMENTAL LIFE CYCLE

End-of-Life Care

Talking about life expectancy and end-of-life treatment and expectations is important.

- Patients should be asked about DNR status.
- Patients may have a living will or assign a health power of attorney in the event they can no longer make decisions themselves.
- You have an obligation to tell the patient everything.
- Do not give false hope to patients but recognize that they might hope for things other than a cure: quality of life, less pain, a painless death.
- Allow patients to talk about their feelings.
- Encourage patients to avoid social isolation and stay engaged in different activities

DEVELOPMENTAL LIFE CYCLE

Patients may cycle through the Kubler-Ross stages of adjustment. The stages need not occur in order.

- Denial
- Anger
- Bargaining
- Depression
- Acceptance

DEVELOPMENTAL LIFE CYCLE

- **Hospice care** is care for terminally-ill patients with a life expectancy ≤ 6 months.
- It provides care and support for patients (and their families) with advanced disease; the goal is to help dying patients with peace, comfort, and dignity.
- Hospice care consists of medical care, psychological support, and spiritual support.
- It may be delivered at specialized facilities or at home.
- In the United States, payment for hospice care varies:
 - Medicare hospice benefit
 - Medicaid hospice benefit
 - Private insurance

DEVELOPMENTAL LIFE CYCLE

Attachment and Loss in Children

According to Bowlby's theory of attachment, children are predisposed at birth to form attachments with others. Over the first two years of life, they form attachments with their primary caregiver.

Separation from a child can lead to the following:

- Protest (usually seen during short-term separation, e.g., up to two weeks)
 - Crying, screaming, and clinging when parents leave
 - Anger toward parent upon return
- Despair
 - Protesting stops
 - Despondency and sadness
 - Child appears calmer but may be withdrawn and disinterested
- Detachment
 - If separation continues, the child will start to engage with others but will reject caregiver and remain angry
 - Indifference upon caregiver's return

DEVELOPMENTAL LIFE CYCLE

Mourning and Loss in Adults

Adults who are bereaved or are mourning the loss of a loved one also go through a period of adjustment. People move back and forth through the stages of adjustment (Kubler-Ross). Not everyone passes through all stages or reaches adequate adjustment.

| Normal Grief | Depression |
|--|---|
| Normal up to 1 year | After 1 year, sooner if symptoms severe |
| Crying, decreased libido, weight loss, insomnia | Same but more severe |
| Longing, wish to see loved one, may think they hear or see loved one in a crowd (illusion) | Abnormal overidentification, personality change |
| Loss of other | Loss of self |
| Suicidal ideation is rare | Suicidal ideation is common |
| Self-limited, usually <6 months | Symptoms do not stop (may persist for years) |
| Antidepressants not helpful | Antidepressants helpful |

DEVELOPMENTAL LIFE CYCLE SUICIDE

SUICIDE

Suicide is the 10th leading cause of death in the United States. Men > women; however, women attempt suicide more often (pills/poison).

- Elderly are most successful and attempt less frequently.
- Adolescents attempt more frequently.
- Ethnic group with the highest suicide rate is Native Americans; within this group adolescents > elderly.
- Firearms account for >50% of all suicides.
- 50% have seen a physician in the past month.

High risk factors for suicide include:

- Previous suicide attempt
- Age
- Gender
- High socioeconomic status (SES)
- Unemployed
- Medical/psychiatric comorbidities
- Hopelessness
- Isolation
- Initiation of antidepressant pharmacotherapy (suicide window)