



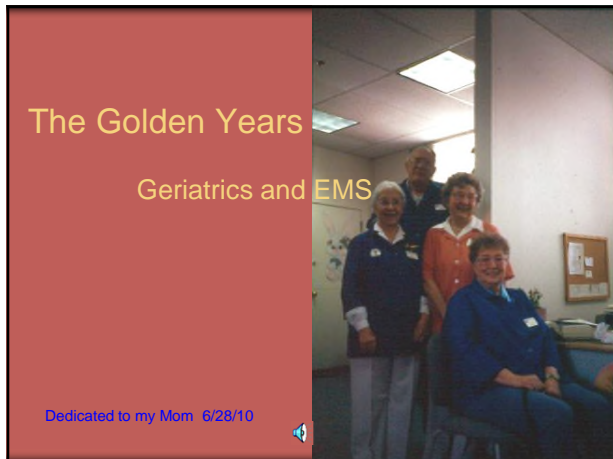
Geriatrics – The Golden Years

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Geriatrics for CLCFPD's Refresher Geriatrics for CLCFPD's Refresher

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The Golden Years

Geriatrics and EMS

Dedicated to my Mom 6/28/10

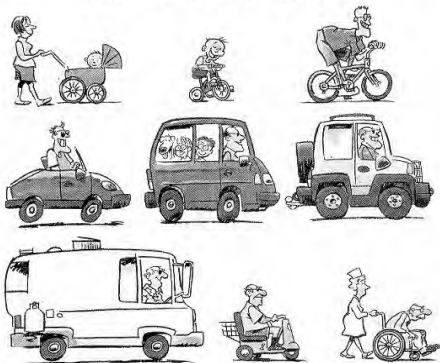
The Four Stages of Life



Forty is the old age of youth; fifty is the youth of old age

Victor Hugo

The Wheels of Life



Wikipedia

- ❶ The boundary between **middle age** and old age cannot be defined exactly because it does not have the same meaning in all societies. In many parts of the world, people are considered old because of certain changes in their activities or social roles. Examples: people may be considered old when they become **grandparents**, or when they begin to do less or different work — **retirement**. In North America and Europe, people are often considered old if they have lived a certain number of years.
- ❷ Many Americans think of 65 as the beginning of old age because United States workers become eligible at this time to retire with full **Social Security** benefits at age 65. People in the 65-and-over age group are often called *senior citizens*. In **2003**, the age at which an American citizen becomes eligible for full Social Security benefits began to increase gradually until it reaches 67 in **2027**.

Definitions

Tabers doesn't give an age definition for a "geriatric" pt. rather; [Gr. Geras, old age, + iatrike, medical treatment]. Branch of medicine concerned with the problems of aging... physiological, psychological, economic and sociological problems. The Brady's Paramedic Emergency care test defines an "elderly" patient as someone over the age of 65. So, I'll use the age of 65 as the magic moment of "Geriatric" consideration.

with you today on communicating with the elderly

Geriatric Emergencies

- **The Elderly (>65) population is the fastest growing segment of US population, ≈35 million.**
 - Increase mean survival (75-year life expectancy)
 - Declining Birth Rate
 - Absence of major wars and catastrophes
 - Improved Health Care
- **By the 2030, elderly will represent 20% of the US population.**
- **By the 2030, elderly will represent 70% of all ambulance transports.**

Geriatric Emergencies

- By the 2050, 25% of the population will be eligible for Medicare.
- By the 2050, the population over 85 years old will grow from 4 million to 19 million.

Physiological Changes of Aging

- Gerontology is the study of the problems of all aspects of aging
 - The aging process proceeds at different rates in different people, and organ systems age at differing rates within the individual
 - In certain areas, however, predictable functional declines occur in all people with increasing age

The Golden Years

- 👁️ I cannot see
- 🚽 I cannot pee
- 🦷 I cannot chew
- 🔩 I cannot screw



🙏 Oh My God What can I do

- 🧠 My memory shrinks
- 👂 My hearing stinks
- 👃 No sense of smell
- 👁️ I look like hell!
- 😡 My mood is bad - can you tell?
- 👉 My body's drooping
- 🚽 Have trouble pooping
- 👴 The Golden Years have come at last
- 👴 The Golden Years can kiss my ass.



Why Do We Care?

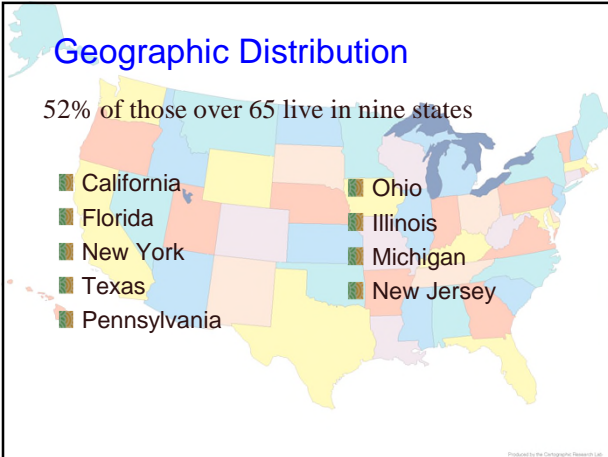
- 13-14% of our population is > 65 y/o
 - And increasing daily
 - 20% of the population by 2030
 - By 2030 the elderly will account for 70% of all ambulance transports
 - 34.5 million > 65 y/o in 1999
- 70% of your calls will be for elderly patients with medical problems
 - Most common EMS call in US?
 - 70 y/o female with trouble breathing



Geographic Distribution

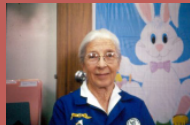
52% of those over 65 live in nine states

- California
- Florida
- New York
- Texas
- Pennsylvania
- Ohio
- Illinois
- Michigan
- New Jersey



Life expectancy

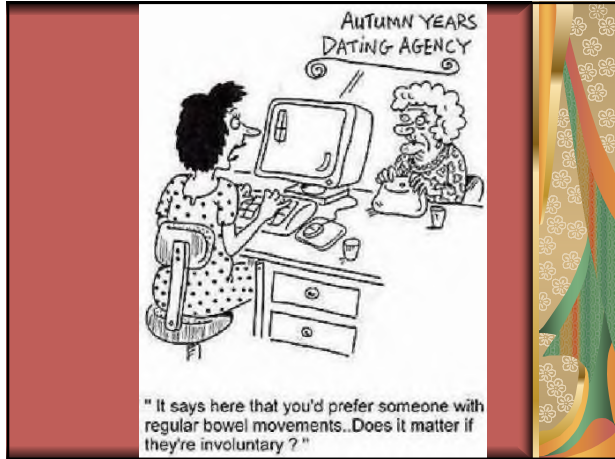
Females average life is 84 y/o



Males average life is 81 y/o

By the 2050, the population over 85 years old will grow from 4 million to 19 million.






Living Arrangements

- ☞ Only 4% of those > 65 live in an institutional setting
- ☞ Rate of institutionalization increases with age
- ☞ 65% of elderly live with spouse or family
 - ☞ Women are 3x more likely to be widowed
 - ☞ 9 million elderly live alone

Healthcare Costs

- ☞ 33% of US healthcare dollars are spent on those > 65y/o
- ☞ 65 + y/o spend about 20% of their annual income on healthcare costs
 - ☞ 52% insurance
 - ☞ 22% medications
 - ☞ 20% medical services
 - ☞ 5% medical supplies



Considerations for Elder Care

- Physiologic changes
- Provider attitudes
- Assessment techniques
- Trauma and Medical
- Communicating with the elderly
- Psychological & Social



MYTH

All elderly end up institutionalized at some point

FACT



Only 3% of persons in their 60's live in SNFs
Less than 20% of persons over 85 live in institutions

MYTH



Most old people are senile

FACT

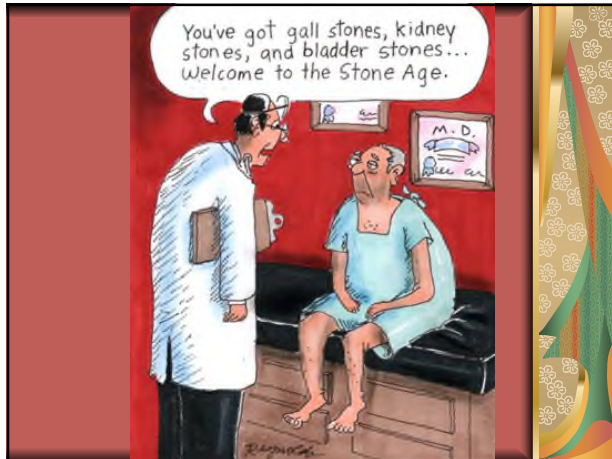
Only 2% of persons in their 60s show signs of Alzheimers or other dementia
Only 30% of those over 85 have dementia

MYTH

Most elderly people are depressed

FACT

The elderly have lower rates of depression and suicide than other adult populations



**Physiological Changes:
Airway/C-spine**



Physiological Changes: Breathing

- ☒ Reduced pulmonary capacity
 - ☒ Decreased chest wall compliance
 - ☒ Weakened respiratory muscles
 - ☒ Increased alveolar diameter & distal airway collapse on expiration
 - ☒ Increased residual volume
 - ☒ Decreased vital capacity



Physiological Changes: Breathing

- ☒ Decreased PaO₂
 - ☒ Age 30 = 90 torr
 - ☒ Age 70 = 70 torr
- ☒ Slowly decreasing PaO₂ without increase PaCO₂ combined with decline central and peripheral chemoreceptor function produce a diminished ventilatory response to hypoxic challenge
- ☒ Loss of cilia
- ☒ Diminished cough reflex
- ☒ Vulnerability to infection



Physiological Changes: Circulation

- ☒ 30% decrease in CO between age 30 and 80
- ☒ Atherosclerotic CAD
 - ☒ Increased PVR
- ☒ Diminished ability to increase rate
- ☒ Decreased ventricular compliance
- ☒ Prolonged duration of contraction
- ☒ Decreased response to catecholamine stimulation
- ☒ Presence of CHF



Physiological Changes: Circulation

- ❏ Dysrhythmias are common
 - ❏ Atrial fibrillation is the most common
 - ❏ Sick sinus syndrome
 - ❏ Bradycardias and blocks are common
 - ❏ Most people > 80 y/o have PVCs



Physiological Changes: Renal

- ❏ Renal blood flow drops 50% and 80 y/o
 - ❏ Decreased filtration rate
- ❏ Obstruction
- ❏ Infection
- ❏ Vascular occlusion
- ❏ Decreased renal & liver function leads to:
 - ❏ Electrolyte abnormalities
 - ❏ Toxic phenomena in response to meds



Physiological Changes: CNS

- ❏ 10% decrease in brain weight by age 70
- ❏ Decreased cerebral blood flow
- ❏ Decreased visual capacity
- ❏ Decreased auditory acuity
- ❏ Electrolyte imbalances
- ❏ Hypoglycemia
- ❏ Secondary effects of respiratory, cardiac, renal or hepatic disease
- ❏ Effect of medications



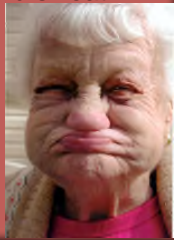
Physiological Changes: Musculoskeletal

- ☞ Osteoporosis
- ☞ Kyphosis
- ☞ Decreased muscle mass
- ☞ Decreased height (2-3")



Physiological Changes: Integument

- ☞ Layers of skin thin and become fragile
- ☞ Collagen and elastin fibers deteriorate
- ☞ Less active sebaceous and sweat glands
- ☞ Hair becomes white



Pressure Ulcers



Other Changes



- ❏ Decreased ability to maintain homeostasis
- ❏ Decreased ability to maintain thermoregulation
 - ❏ "urban hypothermia" is very common
- ❏ Decreased immunological response
- ❏ Dietary changes
 - ❏ Decreased sense of taste
 - ❏ Decreased appetite
 - ❏ Difficulty handling utensils
 - ❏ Poor dentition
 - ❏ Difficulty swallowing





*My granddaughter asked me
what it was like to be old.
So I told her
"Put cotton in your ears
and pebbles in your shoes.
Pull on rubber gloves.
Smear vaseline over your glasses,
And there you have it :
instant Old Age."*

Sarah V
www.wackywits.com

Trauma

❏ 5th leading cause of death in the elderly

❏ MVC

- ❏ Errors in perception, judgment, or delayed reactions
- ❏ Account for 30% of the deaths in ages 65-74

❏ Falls

- ❏ Medication related (orthopnea)
 - Sedative hypnotics
 - Antihypertensives
- ❏ Accounts for 25% of deaths in the elderly
- ❏ Account for > 80% of the deaths in those >80 y/o
- ❏ Hip fxs are common
- ❏ "fear of falling" leads to self-imposed immobility



Trauma

Head trauma

- 66% of Pts > 65 y/o unconscious upon arrival at ED do not survive!
 - Cerebral atrophy causes veins to stretch and make them susceptible to tear
- C-spine injuries
 - Stiffening, decreased flexibility, disc damage
 - Fractures more likely
 - Spinal cord more vulnerable

Trauma

Chest Trauma

- Decreased reserves & structural changes lead to
 - Cardiac contusion
 - Direct damage to lungs
 - Cardiac injuries
 - Rupture
 - Valve injury
 - Aortic dissection

Trauma

Abdominal injuries

- Death rate 4.7 times higher than other age groups
- Injuries less apparent
- Surgery is more risky

Peritonitis is fatal >12% of the time in patients >60 y/o, and > 30% of the time in patients > 70 y/o

Case Study

- ❏ Grandma picks up grandchild and is kicked in the belly.
- ❏ Drives to the ER with c/o severe abd. Pain but without firmness or guarding and only minimal tenderness upon palpation
- ❏ Rx – admit for pain control and get CT of Abd in am
- ❏ Pt. dies during night from perf'ed/transected bowel

Attributed to Paul Werfel, EMT-P

Trauma: Falls

- ❏ Result in over 734,000 hospital admissions per year
 - ❏ >25000 deaths/year
- ❏ Most common cause of accidental death in the patients over 65 y/o
 - ❏ Of the older folks hospitalized from a fall 25-50% of victims die within one year of fall, (Rose, C, editor Emergency Care of the Elderly, Emerg Med Clin North Am May 1990)

Predisposition to Falls

- ❏ Loss of agility
 - ❏ Musculoskeletal changes
- ❏ Loss of proprioception
- ❏ Loss of vestibular function
- ❏ Loss of visual sensory input
- ❏ Impaired cognition
- ❏ Incontinence
- ❏ Older patients taking the Benzodiazapines (xanax, valium, librium, dalmane) are 2-3 x more likely to fall
- ❏ polypharmacy

The Effects of a Fall

❏ Hip Fractures

- ❏ 60% of those who survive hip fxs have significant mobility problems
- ❏ 25% become functionally dependent

❏ Often lead to a self imposed immobility due to fear, resulting in joint stiffness, pressure sores, UTIs muscle atrophy and depression



Trauma

❏ Musculoskeletal injuries

- ❏ Osteoporotic bones more vulnerable
- ❏ Pelvic fx may be lethal
- ❏ Pain perception often greatly decreased
- ❏ Mortality rate increase by delayed complications
 - ❏ ARDS
 - ❏ Sepsis
 - ❏ Renal failure
 - ❏ PE



Trauma Care Pearls

- ❏ AcBCDE approach is unchanged
- ❏ Adjusting HR may be difficult
- ❏ Older patients require higher arterial pressures
- ❏ Rapid IV infusions can precipitate volume overload



Trauma Care Pearls



- ❏ Cover the head
- ❏ Thermoregulation is important
 - ❏ Make a shawl
- ❏ Pad the long board
- ❏ Don't forget glasses, hearing aids, keys
- ❏ Pets



Medical Challenges: AMI

- ❏ Chest pain often absent
 - ❏ 50% of the MI pts > 65y/o have a c/c of SOB
- ❏ The "silent" MI (32% of the time)
- ❏ Vague symptoms
 - ❏ Dyspnea
 - ❏ Abdominal/epigastric distress
 - ❏ Fatigue



Medical Challenges: Respiratory

- ❏ PE
 - ❏ A-fib, immobility, COPD are common contributors
 - ❏ May look like LV failure
 - ❏ Local signs
 - ❏ Calf discomfort, edema, increased warmth
- ❏ Bacterial pneumonia
 - ❏ **The leading cause of death in the elderly**
 - ❏ Normal symptoms often absent
 - ❏ Respiratory failure due to decreased pulmonary reserve



Medical Challenges

- ❑ Cancer
 - ❑ Accounts for 1 in 8 deaths
- ❑ Acute abdominal pain
 - ❑ May not show usual signs
 - ❑ More likely to be septic or in shock before diagnosis made
 - ❑ Common causes include
 - ❑ Cholecystitis
 - ❑ Diverticulitis
 - ❑ AAA
 - ❑ Appendicitis
 - ❑ Mesenteric artery occlusion or venous thrombosis



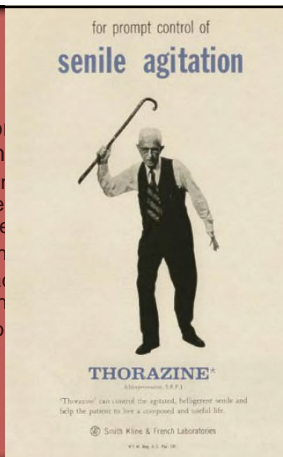
Hyperglycemic Hyperosmolar Nonketotic Coma (HHNK)

- ❑ A serious complication of elderly, non-insulin dependent diabetics
- ❑ The patient is often found comatose or complaining of profound polydipsia and polyuria from osmotic diuresis
 - ❑ Leads to dehydration and electrolyte loss
- ❑ Predisposing factors
- ❑ Emergency care



Delirium

- ❑ An abrupt disorientation for usually with illusions and h
- ❑ The patient's mind may "war be incoherent, and the patie of mental confusion or excite
- ❑ Commonly brought on by ph
- ❑ Signs and symptoms vary a personality, environment, an
- ❑ Causes of delirium are asso brain dysfunction
- ❑ Emergency care



Dementia

- ❏ A slow, progressive loss of awareness for time and place, usually with an inability to learn new things or remember recent events
 - ❏ Often a result of brain disease caused by:
 - ❏ Stroke
 - ❏ Genetic or viral factors
 - ❏ Alzheimer's disease
 - ❏ Generally considered irreversible

Dementia

- ❏ May be difficult to differentiate from delirium in the prehospital setting
 - ❏ The key difference between the two conditions is that delirium is "new" with a rapid onset; dementia is progressive
 - ❏ A history of the event from a rational witness (e.g., friend or family member) is the best source of information
- ❏ If a rational witness is not available, the patient should be treated for delirium that may be a life-threatening emergency

Irreversible

- ❏ Alzheimer's disease is the most common cause of dementia
- ❏ Degenerative diseases
 - ❏ Cerebral atrophy
- ❏ Cause of dementia
- ❏ Nerve cell damage
- ❏ Common causes
 - ❏ Malnutrition
 - ❏ Immobility
 - ❏ Infections





"WHERE is my SUNDAY paper?!"
The irate customer calling the newspaper office, loudly demanded to know where her Sunday edition was.

"Madam", said the newspaper employee, "today is Saturday. The Sunday paper is not delivered until tomorrow, on SUNDAY".
There was quite a long pause on the other end of the phone, followed by a ray of recognition as she was heard to mutter,
"Well, shit, that explains why no one was at church today."

Elder Abuse

- ❏ Physical harm, neglect, intimidation, cruelty, abandonment, financial exploitation or other treatment that causes physical or mental suffering of the elderly person
- ❏ "The infliction of physical injury, pain, debilitating mental anguish, unreasonable confinement, or willful deprivation by a caretaker of services which are necessary maintain mental and physical health of an elderly patient



Incidence of Elder Abuse

- ❏ Approximately 2 million are abused annually
- ❏ Likely underestimated
- ❏ Under reporting likely caused by:
 - ❏ Little training to recognize the signs of abuse
 - ❏ Disbelief
 - ❏ Victim requests no report due to fear



Geriatric Abuse / Neglect

"If I am a mandated reporter, what am I required to do?"

- ③ **Mandatory reporters must make a report immediately, but in no event, later than 24 hours after there is reason to believe that an older person has been abused, neglected, or exploited**
- ③ **The report must be made to any of the following:**
 - ③ *Local office of Nevada State Welfare (NSW), or*
 - ③ *Local office of Division of Aging Services (DAS), or*
 - ③ *Any Police department or Sheriff's office, or*
 - ③ *The county's office for protective services, if one exists in the county where the event occurred*

Other Social Issues

- ③ No food/heat in the home
- ③ No care giver available at home
- ③ Unsafe conditions in the home
- ③ "frequent flyer"
- ③ "too sick to stay at home, too well to be in the hospital"

The Top Ten Senior Fears

10. Loss of memory
9. Robbery, assault
8. Stroke, loss of mobility
7. Loss of vision
6. Cancer
5. Finances of children



1. Loss of ability to drive

Assessment of the Elder

Special considerations

- ⌘ Typically have multiple concurrent illnesses
- ⌘ Chronic problems make acute problems harder to assess
- ⌘ Altered response to pain
- ⌘ Social and emotional factors
 - Fear of losing control
 - Fear of hospitals
 - Financial concerns



“I don’t care how much you know, until I know how much you care”

From one of Steve Berry’s patients

Assessment of the Elder

Physical exam

- ⌘ Remember the patient may tire easily
- ⌘ You may have to cope with multiple layers of clothing (winter or summer)
- ⌘ Explain yourself
- ⌘ Patient may deny symptoms or discomfort
- ⌘ Try to distinguish acute from chronic

Assessment of the Elder

- ❑ Evaluate the environment
 - ❑ Temperature
 - ❑ Meds, "vial of life"
 - ❑ Food
 - ❑ General conditions of environment



Assessment of the Elder

- ❑ History taking
 - ❑ Identify yourself
 - ❑ Get the patient's name and USE IT
 - ❑ Talk at eye level
 - ❑ Speak slowly and distinctly
 - ❑ LISTEN to the patient
 - ❑ Be patient



Communicating with the Elderly

- ❑ Don't assume hearing loss
- ❑ Allow use of hearing aids
- ❑ Ask one question at a time
- ❑ Allow only one interviewer to avoid confusion
- ❑ Stay in patient's line of sight
- ❑ Encourage use of eyeglasses
- ❑ Read information to the patient when necessary
- ❑ Keep patient informed
- ❑ Use formal address
- ❑ Use age appropriate language



“I prefer old age to the alternative”



Maurice Chevalier (1888-1972)

Communications

☞ No matter who you're dealing with (no matter how “old” they are), the more you can increase a patient's sense of “control,” the better the patient will feel. The more you can help them to find “humor” in their situation, the better they will feel

What's In A Name

- ☞ Determine how the patient wishes to be addressed
 - ☞ “Hi. I'm John, your nurse. And you are?...”
 - ☞ Then use the patient's preferred name.
 - ☞ This gives the patient a sense of control and shows respect

How old are you vs How Young are You?

- How young are you? Is a positive phrase and question...
- And yes, your patients recognize that you are avoiding the "old" word, but so what





Fast movements

- Slow down
 - Avoid fast movements
 - Avoid fast speech



The right to Respect and Self Control

- Ask for permission like you would like to be asked
- If they say no, respect them
- Never do something that you would not want to be done to you





The 3 "Magic Words" of Emergency Medicine

- Please
- Good
- Thank you

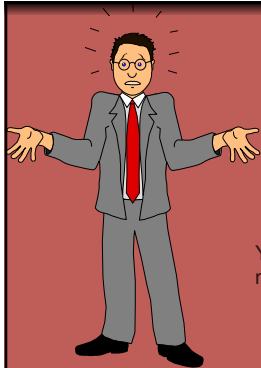


The "O" word

"O"okay

- ☞ We have learned from our earliest remembrances that "it's going to be Okay", is a **LIE**
- ☞ Though it is second nature for us to use this word of consolation, it might behoove us to consider.....





You know George Carlin
may have said it all.....

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MY NEXT LIFE

- George Carlin

- ☞ I want to live my next life backwards:
- ☞ You start out dead and get that out of the way.
- ☞ Then you wake up in a nursing home feeling better every day.
- ☞ Then you get kicked out for being too healthy.
- ☞ Enjoy your retirement and collect your pension.
- ☞ Then when you start work, you get a gold watch on your first day.



🌀 You work 40 years until you're too young to work.

🌀 You get ready for High School: drink alcohol, party, and you're generally promiscuous.


🌀 Then you go to primary school, you become a kid, you play, and you have no responsibilities


🌀 Then you become a baby, and then...

🌀 You spend your last 9 months floating peacefully in luxury, in Spa-like conditions - central heating, room service on tap, and then ..

🌀 You finish off as an orgasm

🌀 I rest my case





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