



Alzheimer's Disease, Dementia and Incontinence

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Capital Nursing Education

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Overview and Objectives

Review

Review Alzheimer's disease and the nervous system regarding urinary or fecal incontinence



Understand

Understand how Alzheimer's and other types of dementia can affect the bladder or bowel control



Recall

Recall three medical conditions that may contribute to incontinence



Discuss

Discuss several methods for incontinence management

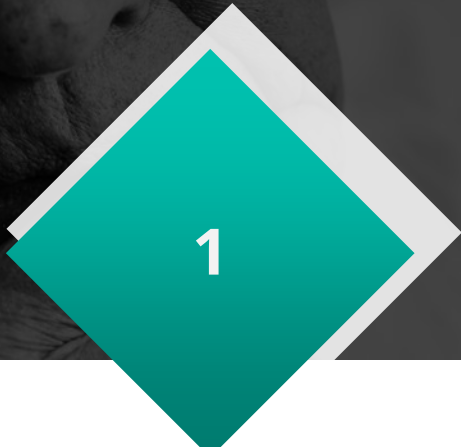


Types Of Dementia





Alzheimer's Disease



Progressive illness



Most common form of dementia



60-70% will have incontinence



Need to rule out any separate conditions

Vascular Dementia



- Second most common form
- Caused by problems in brain blood supply
- Progression varies from person to person



Problems:

- Communication
- Concentration
- Depression
- Anxiety
- Physical weakness
- Memory problems
- Behavioral changes
- Mobility
- Continence problems

Frontotemporal Dementia

1

Less Common

Covers a range of specific conditions

2

3

Pick's disease or frontal lobe dementia

Difficulty controlling behavior,
emotions, language

4

5

Abulia-failure to initiate

Have bowel or bladder accidents when
over stimulated

6



Lewy Body Dementia

1 | Tiny, spherical protein deposits in nerve cells

2 | Disrupts the brain's function

3 | Interrupts important messengers

4 | Also found in Parkinson's

5 | Progressive

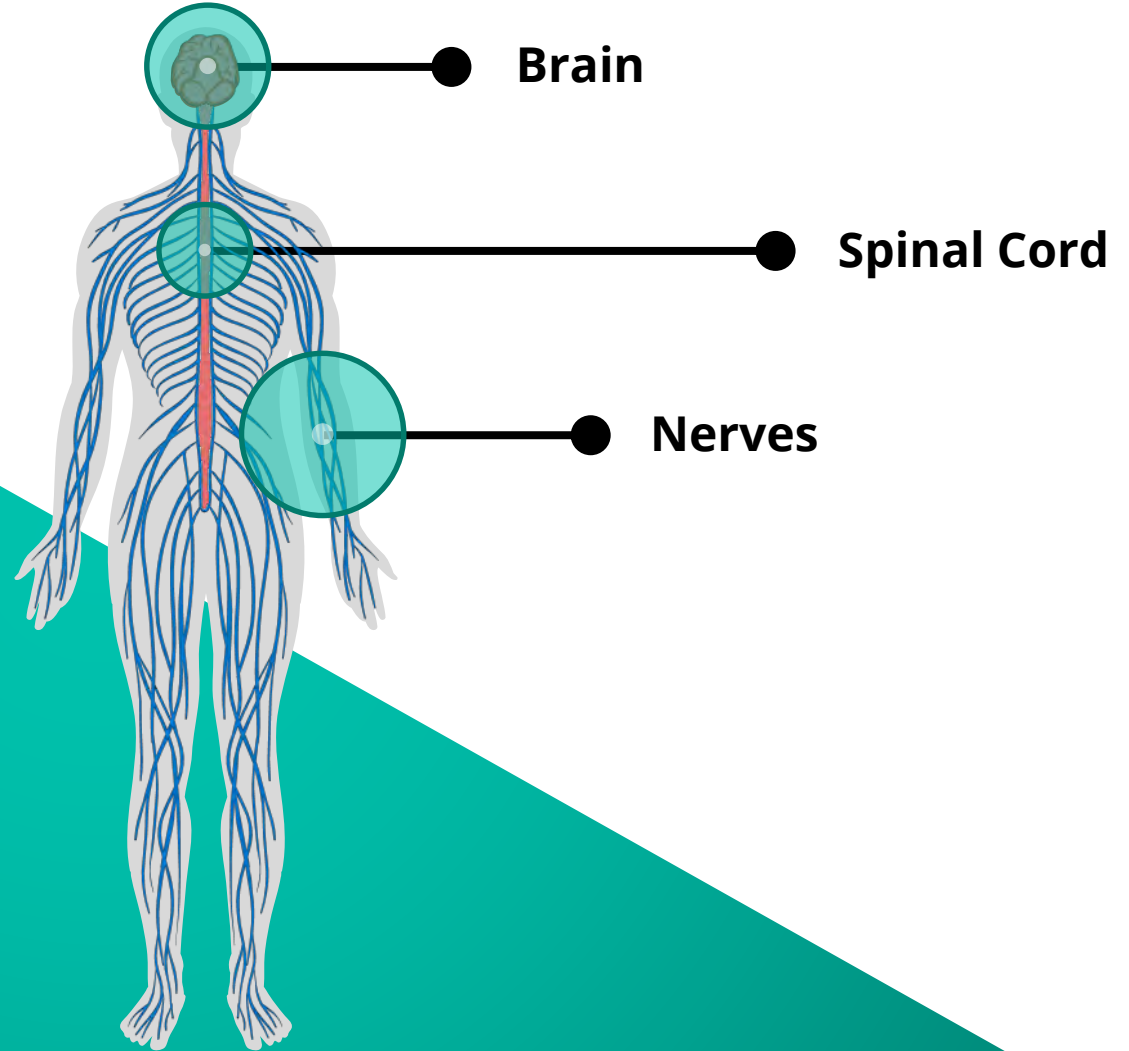
6 | Spatial disorientation

7 | Coordinating mental activities

8 | Abilities fluctuate from day to day

Nervous System Review

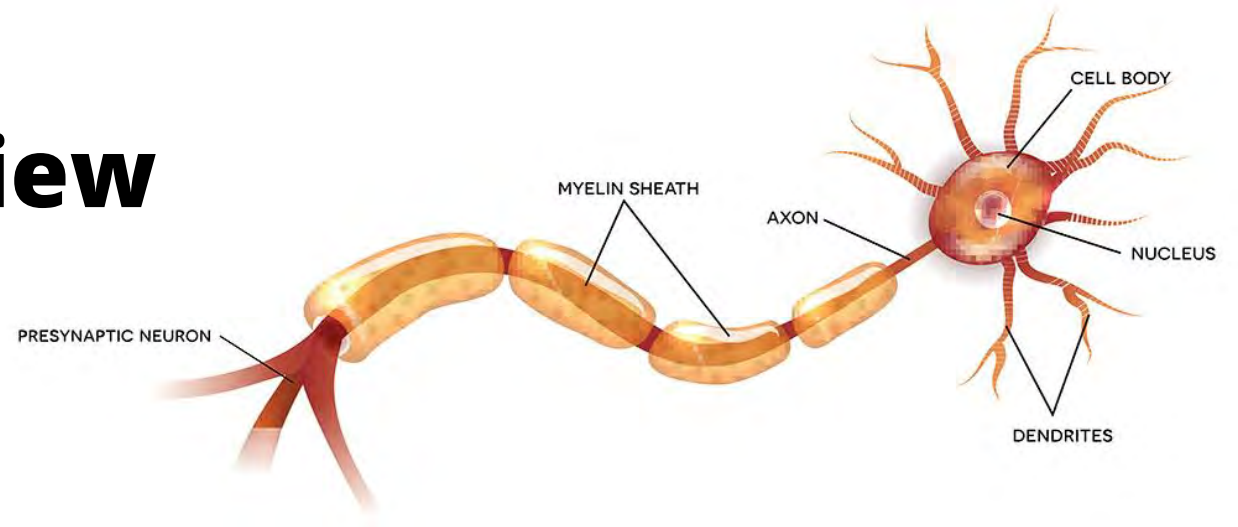
- Central Nervous System (CNS)
- Peripheral Nervous System (PNS)



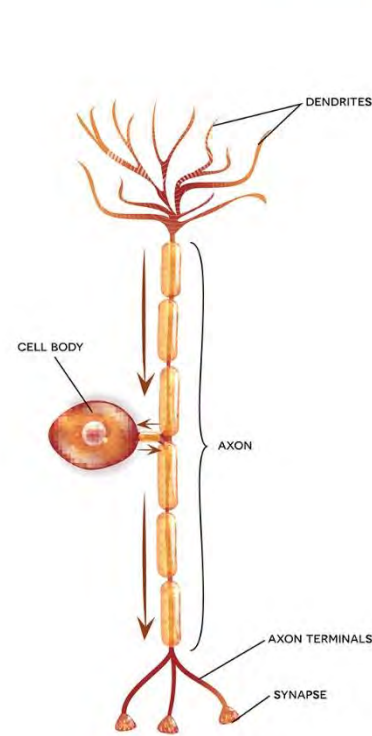
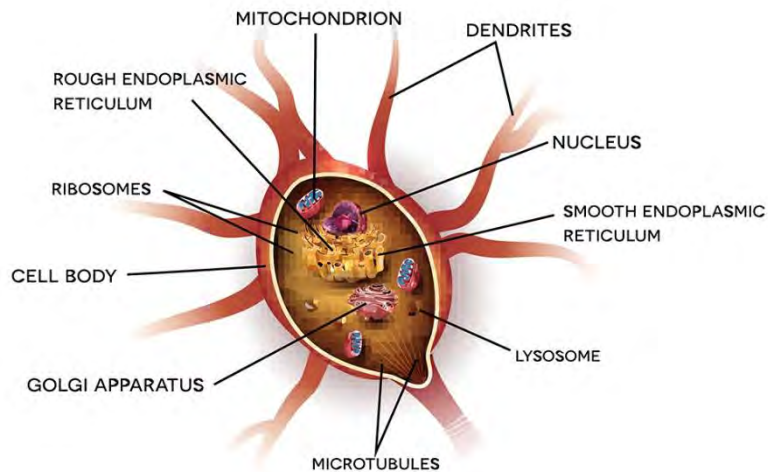
Nervous System Review

Neurons

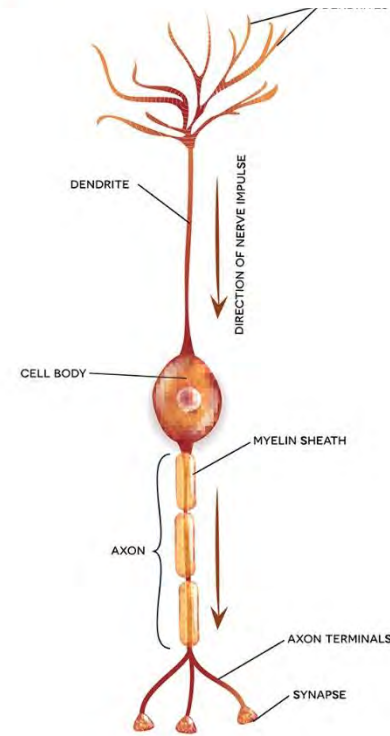
- Cell body
- Dendrites (Antennae)
- Axon (Long Extension)



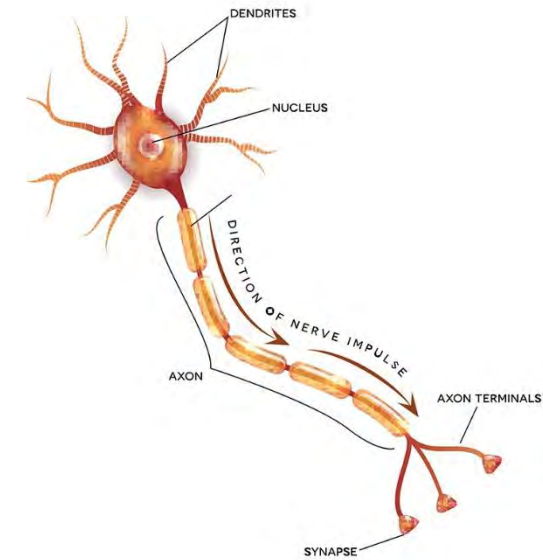
ORGANELLES OF THE NEURON



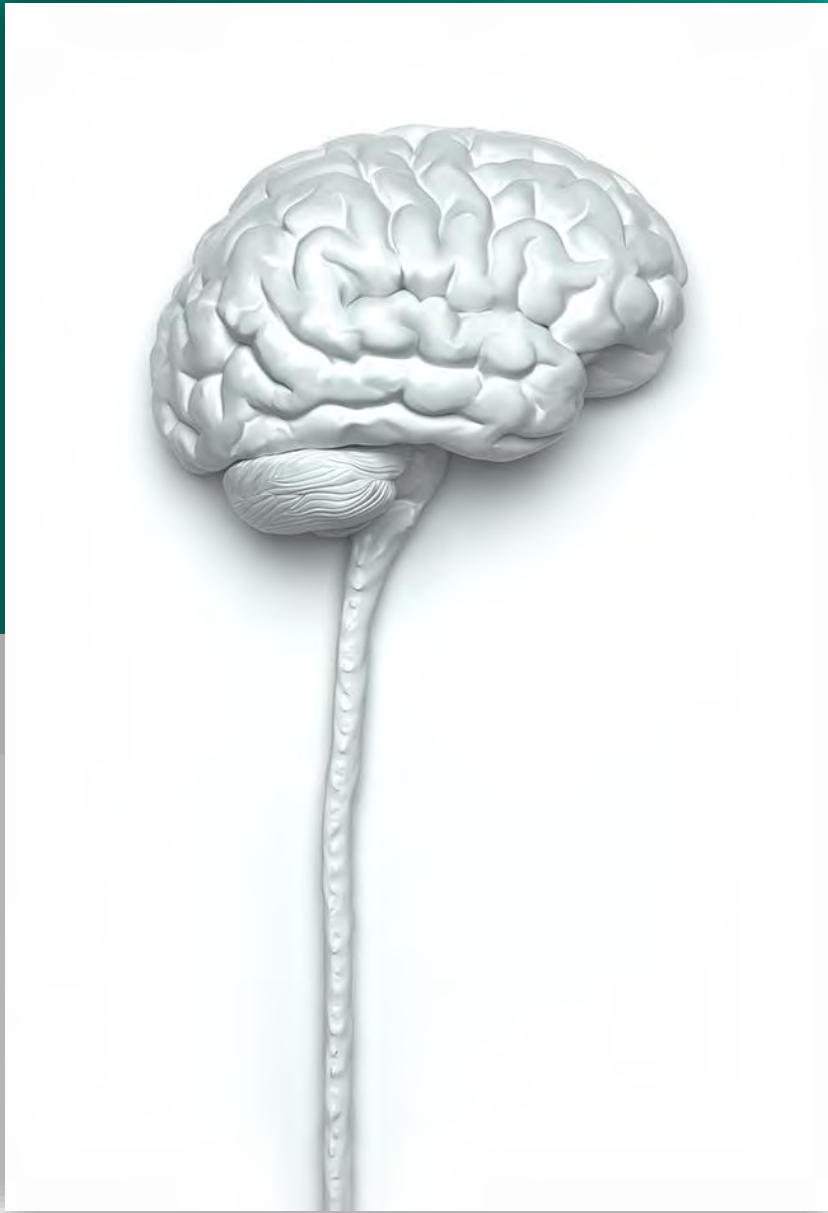
UNIPOLAR NEURON



BIPOLAR NEURON



MULTIPOLAR NEURON



Central and Peripheral

Central Nervous System

- Nerves of the brain and the spinal cord
- Safely contained within the skull and vertebral canal of spine

Peripheral Nervous System

All the other nerves in the body

Voluntary vs Involuntary

Voluntary Nervous System

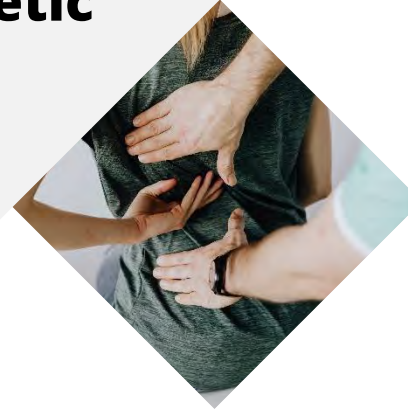
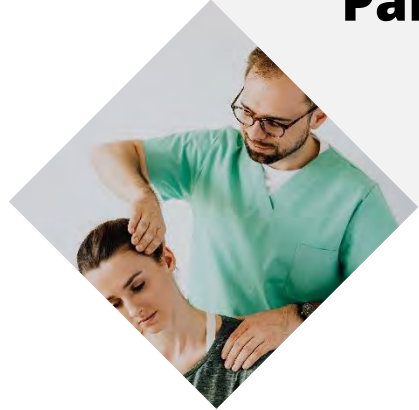
- “Somatic” nervous system
- Controls things we are aware of
- We can consciously influence (moving parts of our body)

Involuntary Nervous System

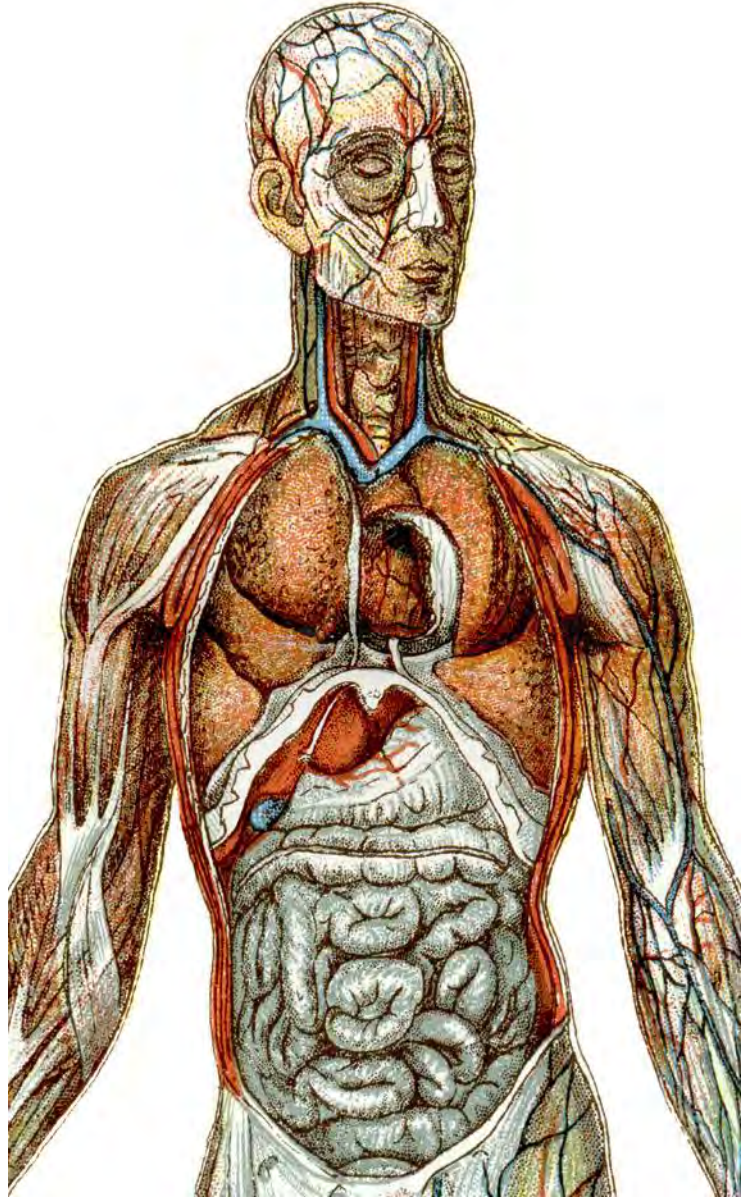
- “Vegetative or autonomic” nervous system
- Regulates the processes that we cannot consciously influence
- Constantly active
- Three parts: sympathetic, parasympathetic, enteric

Sympathetic vs Parasympathetic

Sympathetic prepares
your body



Parasympathetic is
responsible for bodily
functions when at rest



Enteric Nervous System

- Separate system for bowel
- Intrinsic Nervous System
- Mesh like system of neurons
- Function of GI tract
- Thousands of ganglia with nerve fibers
- 200-600 million neurons



Control of Motility

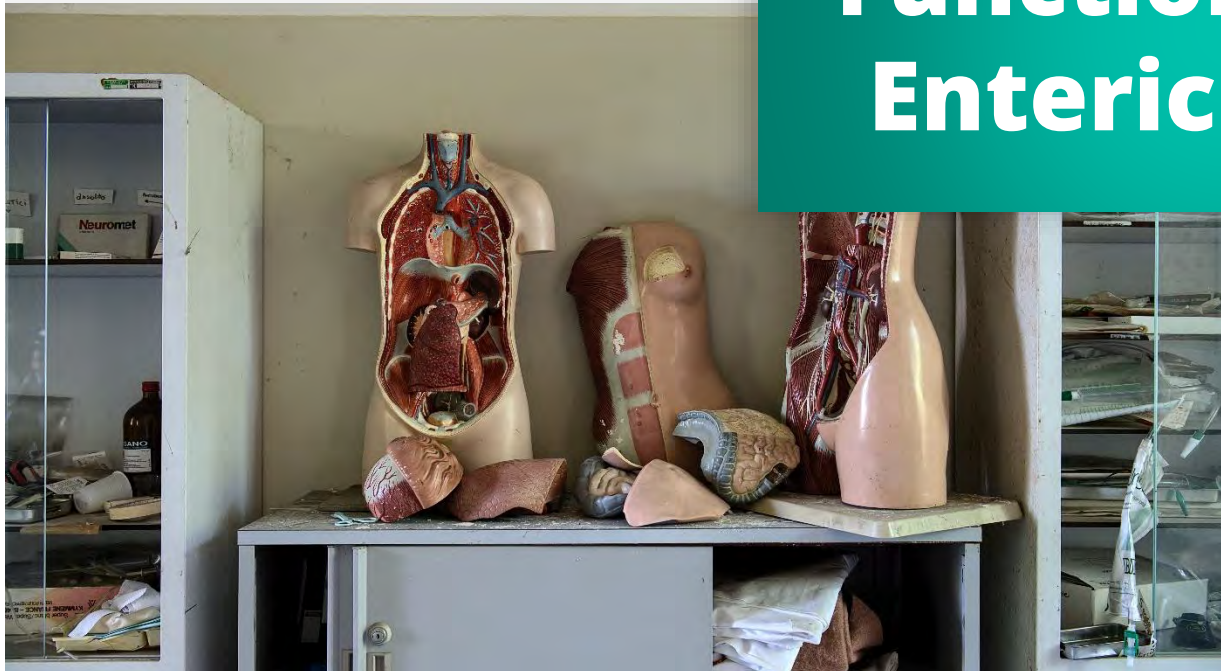
- Time for passage may vary
- ENS orchestrates the mixing
- Average transit time (small intestine) is 3-4 hours
- Colonic transit is 1-2 days

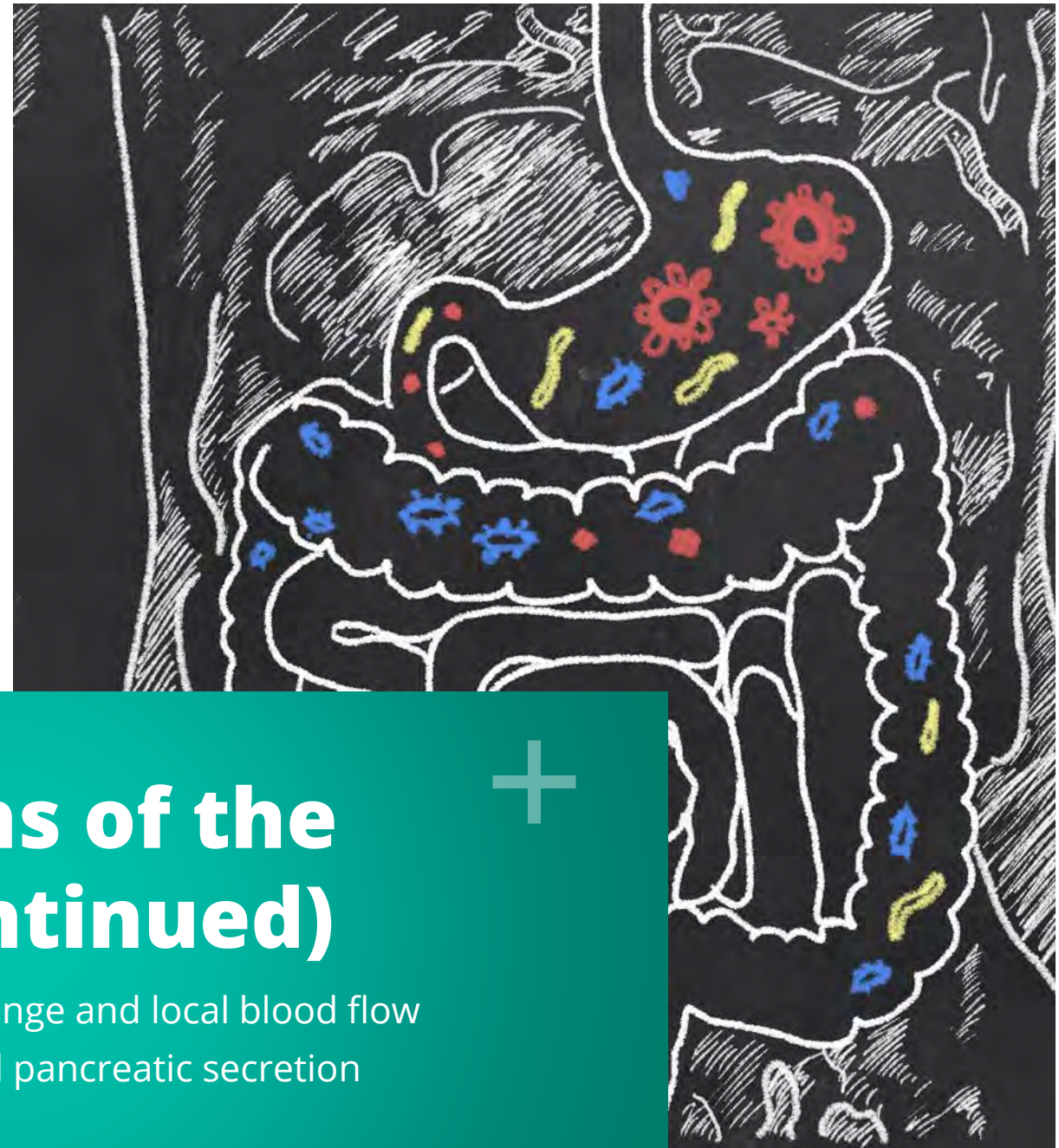


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Functions of the Enteric System

- Peristalsis is muscular
- Gastric contraction intensity and relaxation - vagus nerves
- Inhibited when Sympathetic Nerve activity increases
- Sympathetic pathways become active when protective reflexes are activated





Functions of the ENS (Continued)

- Regulation of fluid exchange and local blood flow
- Regulation of gastric and pancreatic secretion

Defense Reactions



- Diarrhea
- Exaggerated colonic propulsive activity
- Vomiting

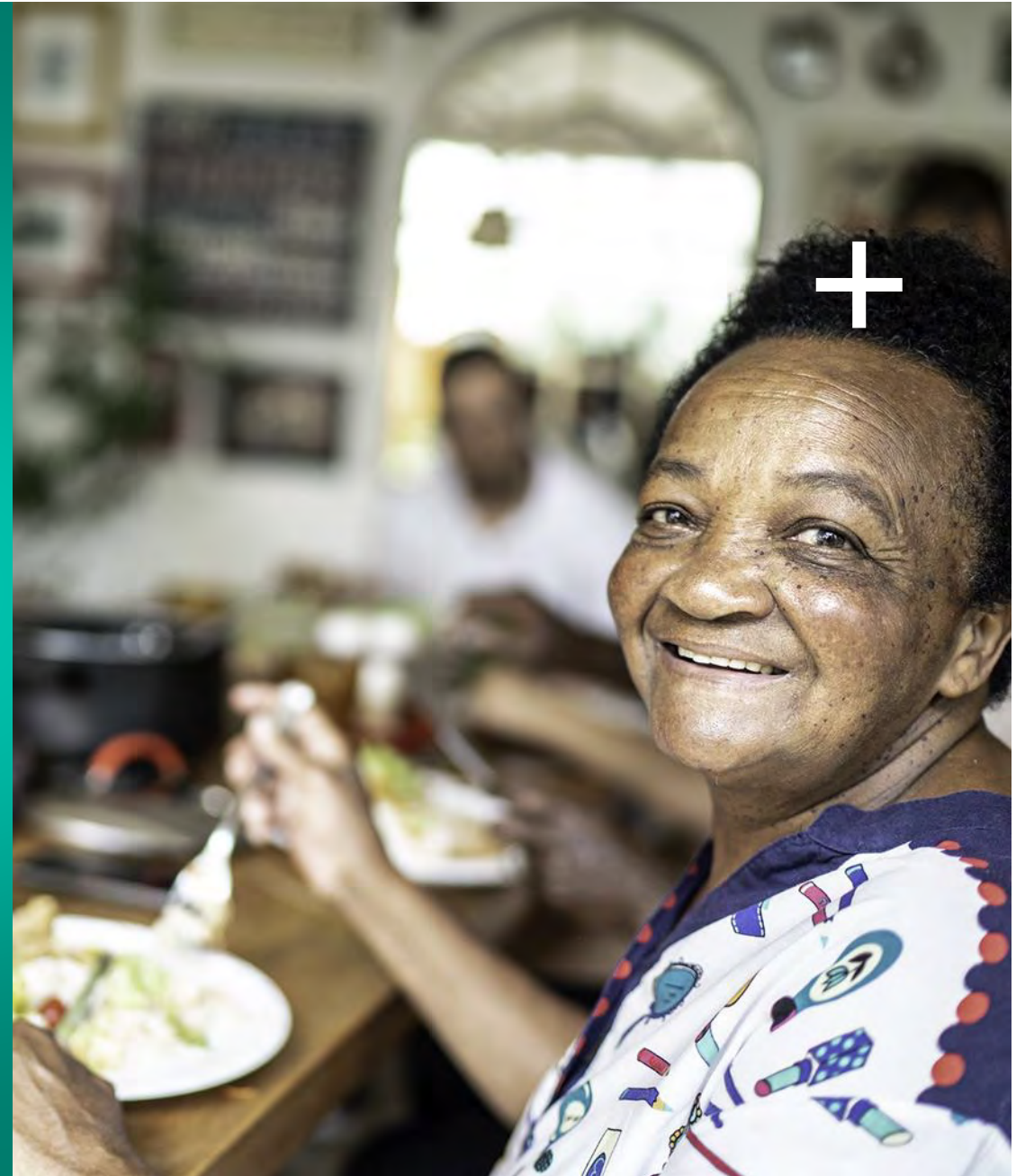


Entero-enteric Reflexes

- Signals sent between gut regions
- Entero-enteric reflexes
 - i.e., secretions from pancreas occurs when nutrients enter the small intestine

ENS-CNS Interactions

- Afferent neurons give information about state of GI
- Some reach consciousness and others don't
- CNS provides signals to control intestine (relayed through ENS)
 - i.e., seeing or smelling food provides preparatory events in GI, the "Cephalic phase of digestion"
- Swallowed food stimulates pharynx, upper esophagus
 - Afferent signals
 - Subsequently, efferent signals to enteric neurons
 - Acid secretion, increased gastric volume, prepared for arrival of food





ENS-CNS Interactions (Continued)

At the other end...
Signals from colon and rectum
to defecation centers in spinal cord



Communication and Dementia

- Approach from the front, say who you are and call them by name
- Avoid criticizing, correcting and arguing
- Use a nice tone of voice
- Keep eye contact
- Take your time
- Respond to the emotions behind the statement
- Provide brief answers

Communication and Dementia (Continued)

- Speak slowly and clearly with limited distractions
- Use visual cues and gestures
- Avoid quizzing
- Join their reality
- Focus on feelings, not facts
- Validate and redirect the person if necessary
- Help them feel safe and happy





Incontinence



Risk of Incontinence - with or without dementia

- Reduced mobility
- Declining cognitive function
- Decreased bladder capacity
- Reduced sphincter and muscle tone
- Poor nutrition
- Medications



Types of Incontinence - Quick Review

Stress incontinence - cough, laugh, sneeze

Urge incontinence - must go NOW

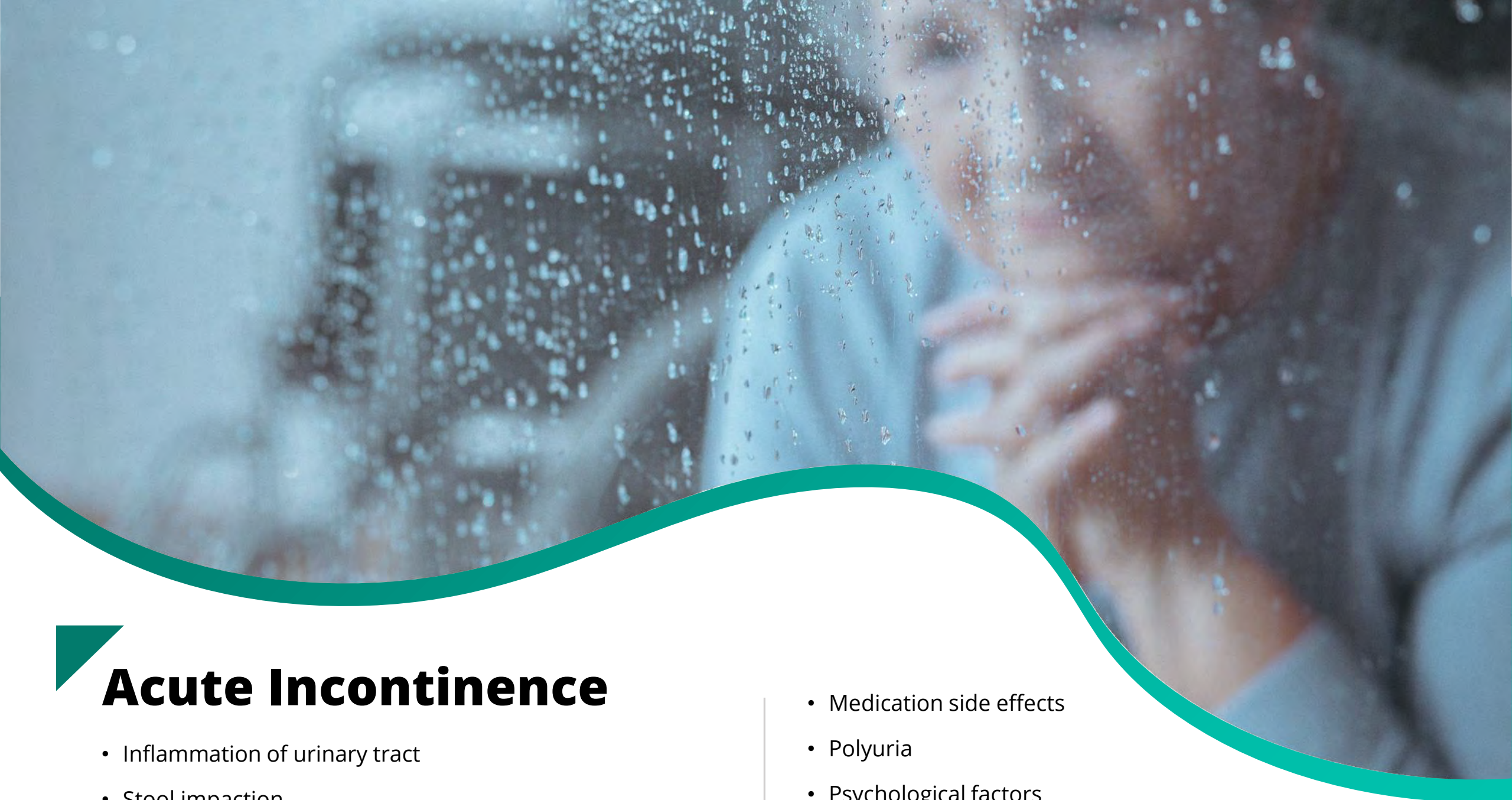
Mixed incontinence - both of above

Functional incontinence - unable to physically get there

Overflow incontinence - unable to fully empty

Overactive Bladder - spasms

Total incontinence - both bowel and bladder



Acute Incontinence

- Inflammation of urinary tract
- Stool impaction
- Medication side effects
- Polyuria
- Psychological factors

Transient Causes of Incontinence

Delirium

Infection

Atrophic vaginitis

Pharmaceuticals

Psychological

Endocrine disorder

Restricted mobility

Stool impaction

Persistent Incontinence

- Sphincter weakness - following prostate surgery in men or vaginal surgery in women
- Pelvic prolapse
- Nervous system impairment - MS, Parkinson's, strokes, spinal cord injury
- Mental or psychological changes
- Bladder Cancer
- Pelvic muscle weakness
- Enlarged prostate
- Nerve or muscle damage after radiation
- Developmental problems of bladder
- Pelvic, prostate or rectal surgery
- Bladder spasms



Studies done by DevoreEE, Minassian VA,I and Grodstein F show that older age, white race, and obesity were particularly strongly related to persistent UI.



Some of the Causes of Urinary and Fecal Incontinence in Persons with Dementia

- Functional difficulties
- Cognitive or physical impairment
- Psychological conditions
- Unwillingness to use the toilet
- Presence of physical barriers
- Lack of available care



With Dementia: Missed “Messages” Between Brain and Pelvic Floor

- Inability to react to sensation
- Inability to communicate need
- Inability to walk
- Disorientation
- Forgetting where toilet is
- Forgetting to remove clothes

To Maintain Continence and Toilet Appropriately

- Requires several interrelated cognitive and physical skills
- Relies on several areas of the brain
 - Cortex, pons, basal ganglia, cerebellum and brainstem
 - Which are responsible for
 - conscious control of social voiding
 - the cerebral micturition center
 - interpretation of sensory information
 - detrusor motor control
 - coordination of the bladder and sphincter





Cognitive and Physical Skill for Continence

- **Sensory Function**
 - To sense fullness, initiate voiding or defecation voluntarily in appropriate place
- **Higher Cortical Function**
 - Enables ability to delay/inhibit the need to void or defecate
- **Goal-oriented behavior**
 - Motivation to use toilet
 - Perception that it is safe, hygienic and private



Cognitive and Physical Skill for Continence (Continued)

- Sacral Micturition Reflex
 - Controls sphincter and detrusor muscles
- Ability to recognize (including understanding visual signs)
- Sufficient mobility
- Manual dexterity
- Ability to communicate toileting needs where assistance is required



A photograph of an elderly person wearing a white shirt and dark pants, using a silver walker to move through a hallway. The person is seen from the side, walking towards the right. The hallway has light-colored walls and a wooden door on the right. There are teal decorative shapes: a large downward-pointing arrow at the top center, a large leftward-pointing arrow on the left side, a large rightward-pointing arrow on the right side, and a large upward-pointing arrow at the bottom center. In the top right corner, there are three white thought bubble icons.

Impaired Mobility

Considered to have a stronger correlation with incontinence than cognitive decline

Assessment of Incontinence in Dementia

- Usually Multifactorial
- Holistic Evaluation Is Essential
- Medical History
- Physical Examination



▲ To exclude causes such as constipation, vaginal atrophy, abdominal mass, prostate enlargement or organ prolapse

Assessment (Continued)



Both

- Post void residual volume assessment
- Urinalysis
- Bladder and bowel diary
- Mobility and dexterity
- Availability of caregiver assistance

Men

- PSA

Psychological Consequences (including the effects on each of these)

- Daily life and quality of life
- Attitude regarding incontinence
- Mobility
- Assistance required
- Relative/care assistant experience
- Clothing suitability
- Severity of cognitive impairment
- Behavioral disturbances



Incontinent or Toileting Difficulty?



Incontinence

Signifies a failure in the control mechanisms associated with normal storage or involuntary passage of stool or urine



Toileting Difficulty

Failure to toilet appropriately can result when function is unimpaired and the awareness of a need to pass urine or stool exists



Behavioral Characteristics of Toileting Difficulties

- Smearing
- Wrapping and parceling
- Passive or active wetting
- Using inappropriate receptacles

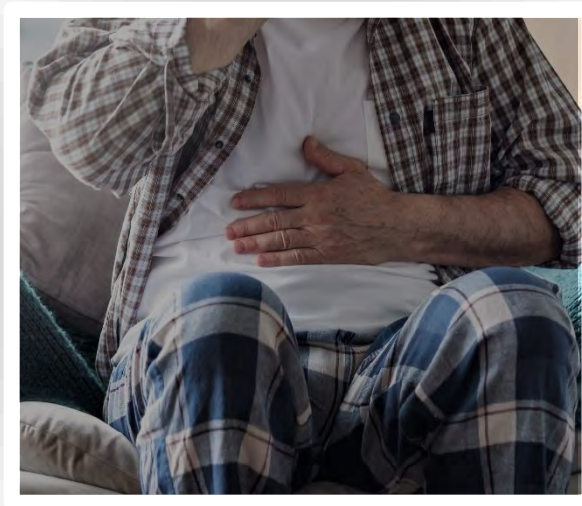
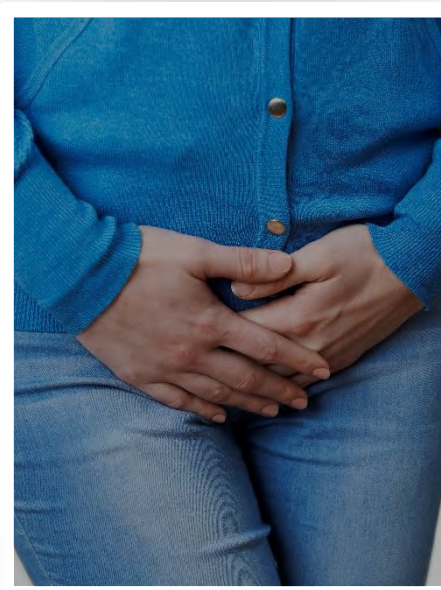
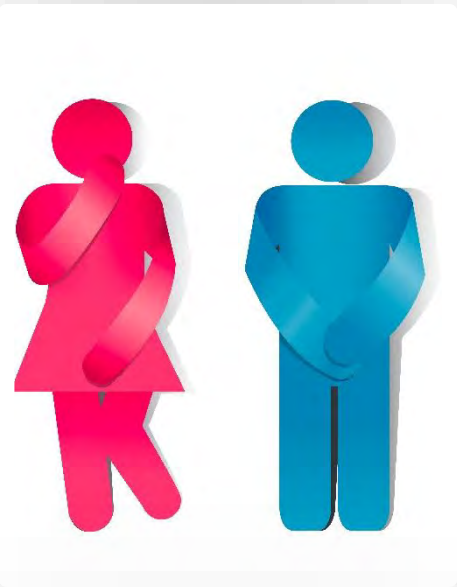
A young woman with long brown hair is kissing an elderly woman with white hair on the cheek. The elderly woman has a thoughtful expression. The background is a soft-focus green outdoor setting.

Management

Reversible should
be explored and
treated

Manage incontinent
episodes in dignified
and supportive way

Condition may affect
options



Individual Management Programs

- Signs
 - Fidgeting
 - Pulling at clothes
 - Standing up and down
- Familiarity with person and their behaviors helps
- Reducing symptoms is important
- Individual programs maximize self care ability

Dysfunctional Behavior

- Use Individual Care Planning
- Set Realistic Goals

1

What can they do

2

What will they do

3

Who will they do it with

4

How will they do it

When is “re-learning” Possible

- ✓ Person has capacity to retain the benefits of an experience
- ✓ Relearning involves starting at the end of the sequence of behaviors and concentrating on what the person can do

Behavioral Technique to help Manage Incontinence



Timed Voiding



Habit training

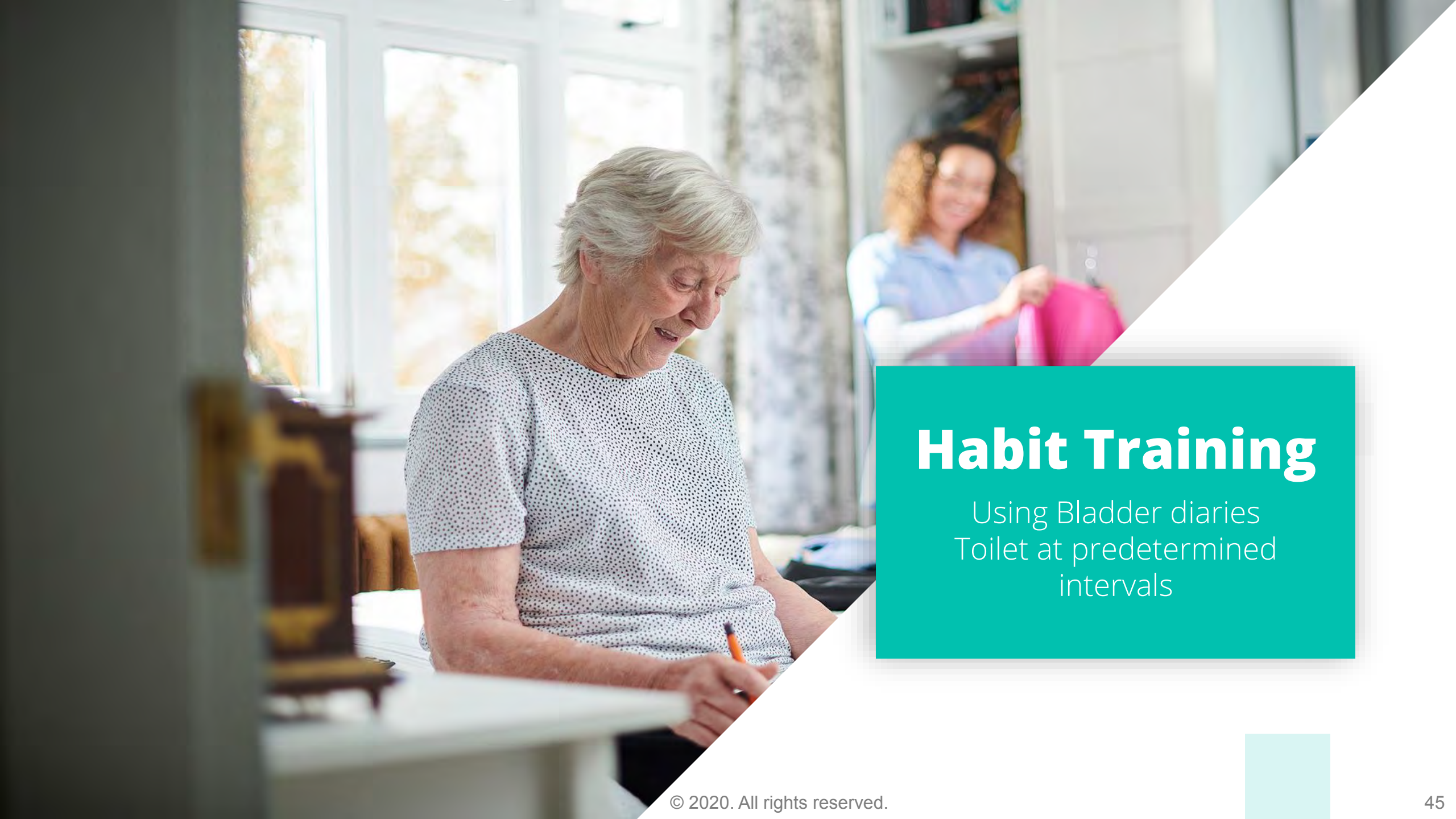


Prompted voiding

Timed Voiding

- Pre-determined toilet visits
- Can be effective when used with additional interventions
- Absorbent products
- Staff education
- Possibly medications





Habit Training

Using Bladder diaries
Toilet at predetermined
intervals



Prompted Voiding

- Attempts to teach people to initiate their own toileting
- Caregiver checks q 1-2 hrs.
- Positive reinforcement if person requests help
- Required motivated care givers
- Considered doubtful and of little sustainable value



Help to maintain bladder health



Avoid carbonation or caffeine



Limit liquids before bed



Avoid spicy or acidic foods



Eat plenty of fiber to avoid constipation



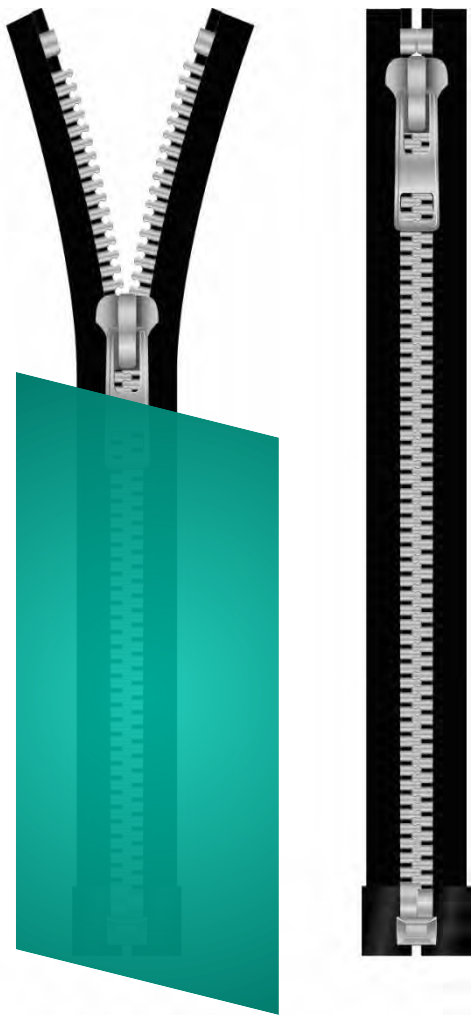
Exercise regularly



Offer water often, spacing out 6-8 glasses/day



Tips for Caregivers



Adaptive Clothing

- Replace buttons and snaps with Velcro and zippers
- Gives more control for the patient
- Encourages independence
- Gives patient more privacy

Incontinence Products

- Briefs-disposable and washable
- Pads-multiple sizes and shapes
- Waterproof mattress pads
- Protective covers for furniture



In Home Helpful Alterations

- Handrails
- Walking aids
- Commodes
- Urinals
- Uncluttered bathroom
- Clear visual signs (pictorial labels or written)
- Might leave bathroom door open
- Mirrors can confuse people with dementia
- Plain colors to differentiate between toilet and other bathroom furniture
- Black toilet seat and white inside may help
- Reduce or avoid fluids 2-3 hours before bed



Outside Or In Public

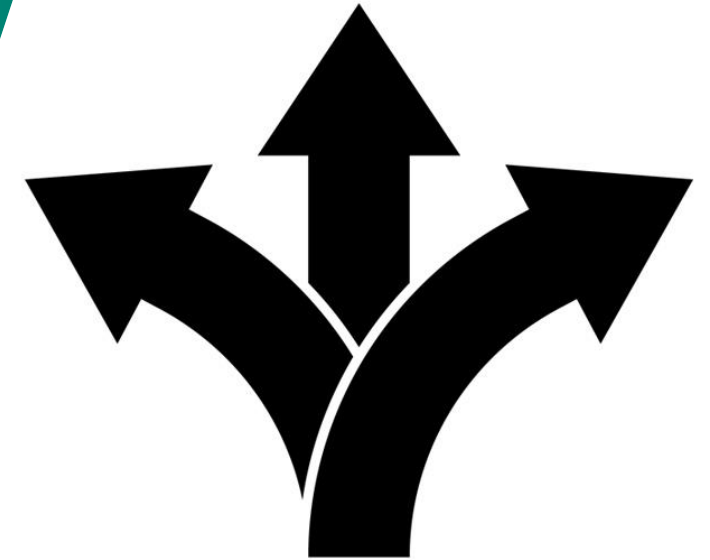
- Plan
- Time stops around bathrooms
- Be prepared for accidents
- Bring a pad and extra clothing

After Accidents (Of Any Incontinent Person)

Be respectful of privacy
Speak or address the issue in calm manner
Avoid scolding or looking upset or frustrated

Conclusion

- Complex due to multifactorial nature of the disease
- Chronic medical conditions complicate it even more
- Comprehensive assessment
- Regular review as disease progresses and function declines
- Build relationship with patient and family
- Address changes in function



- **Goals of Management**
 - Maintain self care
 - Maintain independence for as long as possible

References

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- **The Late Stages of Alzheimer's Disease, Knowing What to Expect** By Carrie Hill, PhD , Medically reviewed by Diana Apetauerova, MD , on November 13, 2019.
- **Alzheimers.net What is Pick's Disease** Alzheimers.net complies with the Can-Spam Act of 2003.
- **Responding to the need to toilet.** In: Stokes G, Goudie F, ed. The Essential Dementia Care Handbook. Speechmark Editions. 2006. Bicester: 109-28
- Hagglund D. **A systematic literature review of incontinence care for people with dementia: the research evidence.** J Clin Nurs. 2010;19(3-4): 303-12
- **Dementia and Incontinence: Is There a Link?** Medically reviewed by Timothy J. Legg, Ph.D., CRNP — Written by Susan York Morris — Updated on April 13, 2017
- **Managing Incontinence with Frontotemporal Dementia** by Geri Richards Hall, PhD, ARNP, CNS, FAAN

Thank you



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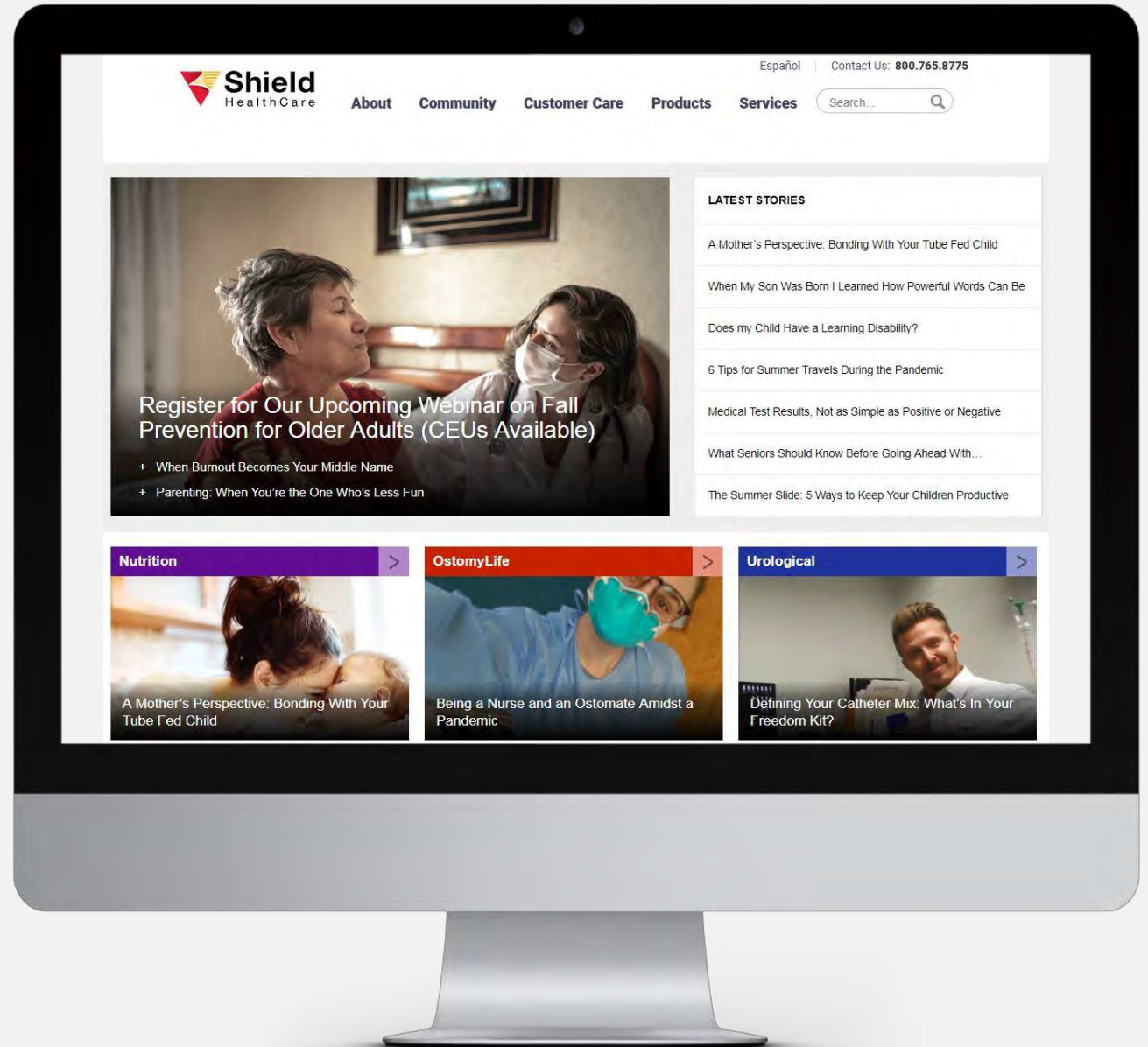
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