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A SENSE OF SMELL
Consequences of loss (1.4% Adults)

- Livelihood
- Psychological
- Nutrition
Human Nose

Two independent nasal passages for inspired air

- Warmed to body temperature
- Humidify - 90%
- Sterilized
Olfactory Neuro Epithelium

- Located in upper recesses of the nose
- Only 10% of inspired air reaches specialized epithelium
- Retro-nasal airflow occurs during swallowing important for the sense of flavour
Odorants Enter the Nose

- Through active (sniffing) or passive (diffusion)

- Must pass to the Olfactory Cleft

- Move from air phase to aqueous phase of nasal mucus
Sense of Smell

- Safety
- Aesthetic
- Basic Communications
- Quality of Life
Loss of Smell
Early Manifestation of

- Alzheimer’s Disease
- Parkinson’s Disease
- Multiple Sclerosis
- Brain Tumors
Loss of Olfactory Function

- Conductive
- Nerve Impairment
Classification of Smell Disorders

- Anosmia: inability to detect Olfactory or Smell sensation
- Hyperosmia: increased sensitivity to common odours
- Hyposmia: decreased sensitivity to common odour
- Dysosmia: distorted smell perception
- Phantosmia: olfactory hallucinations
- Olfactory agnosia: inability to recognise odours when system is intact
- Heterosmia: all odours smell the same
- Presbyosmia: decline in sense of smell with age
- Osmophobias: dislike or fear of smells
Hyperosmia

- Heightened response to an odour
- Hormonal imbalance
  (pregnancy, Addison’s disease)
- Migraine
- Epilepsy
- Drug withdrawal
- Psychosis
Common Causes of Loss of Smell

- Medications
  - Anti thyroid drugs - Thiouracil
  - Ant-acid drugs - Cimetidine
  - Anti cancer drugs - Methotrexate
Head Trauma
Common Causes of Loss of Smell

• Upper respiratory infection
• Head Trauma - Prevelance of 15%
• Nasal and Sinus Disease
  – Rhinitis (Perennial) 20%
  – Chronic Sinusitis
  – Nasal Polyps
• Brain Tumors
• Neuro degenerative diseases
  – Parkinsons
  – Alzheimers
  – Multiple Sclerosis
  – Schizophrenia
• Epilepsy / Migraine
• Toxins, Nicotine, Formaldehyde, Benzone
Treatment of Anosmia

• Expectant

• Drugs
  – Steroids
  – Zinc
  – Aminop hythine

• Retraining

• Olfactory Transplantation
Olfactory epithelial transplantation: possible mechanism for restoration of smell