



PhD week 15-19 Aprile 2024



UNIVERSITÀ
DEGLI STUDI
DI BRESCIA

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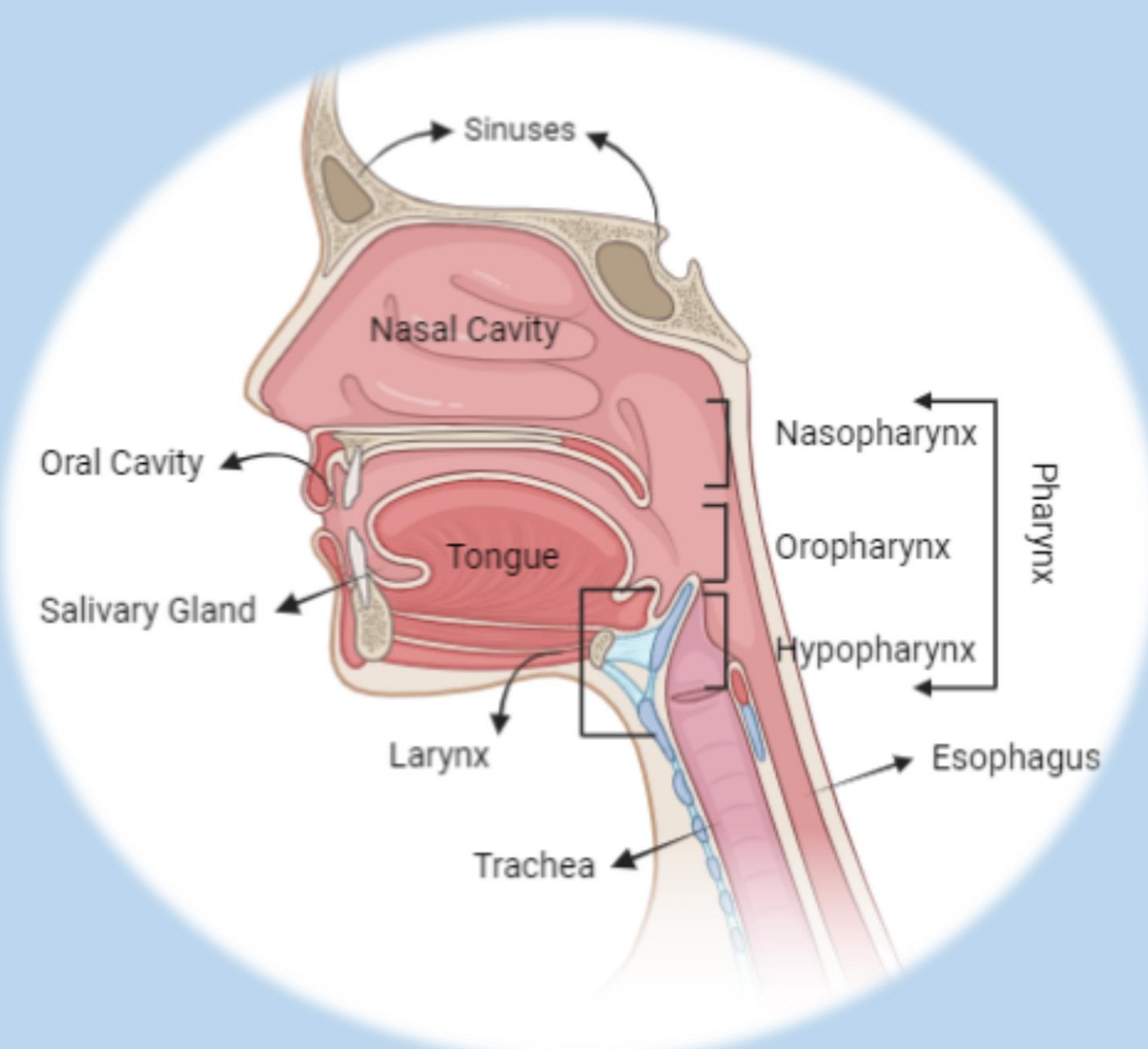
Tutor: Daniela Bosisio

SCIENZE BIOMEDICHE E

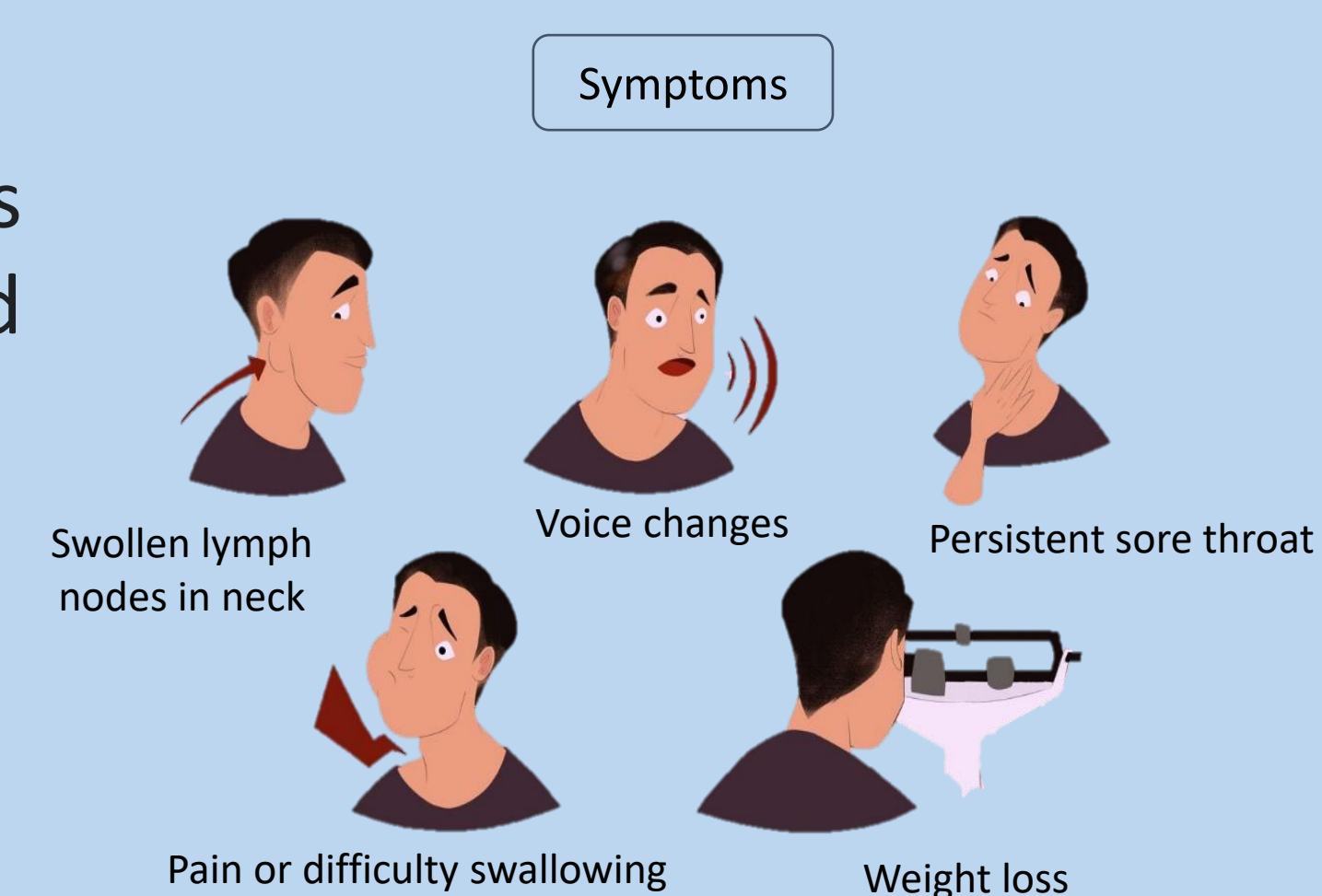
MEDICINA TRASLAZIONALE

Circulating Immune Subpopulations in Head and Neck Cancer Patients Undergoing Radiotherapy

Head and Neck Cancer

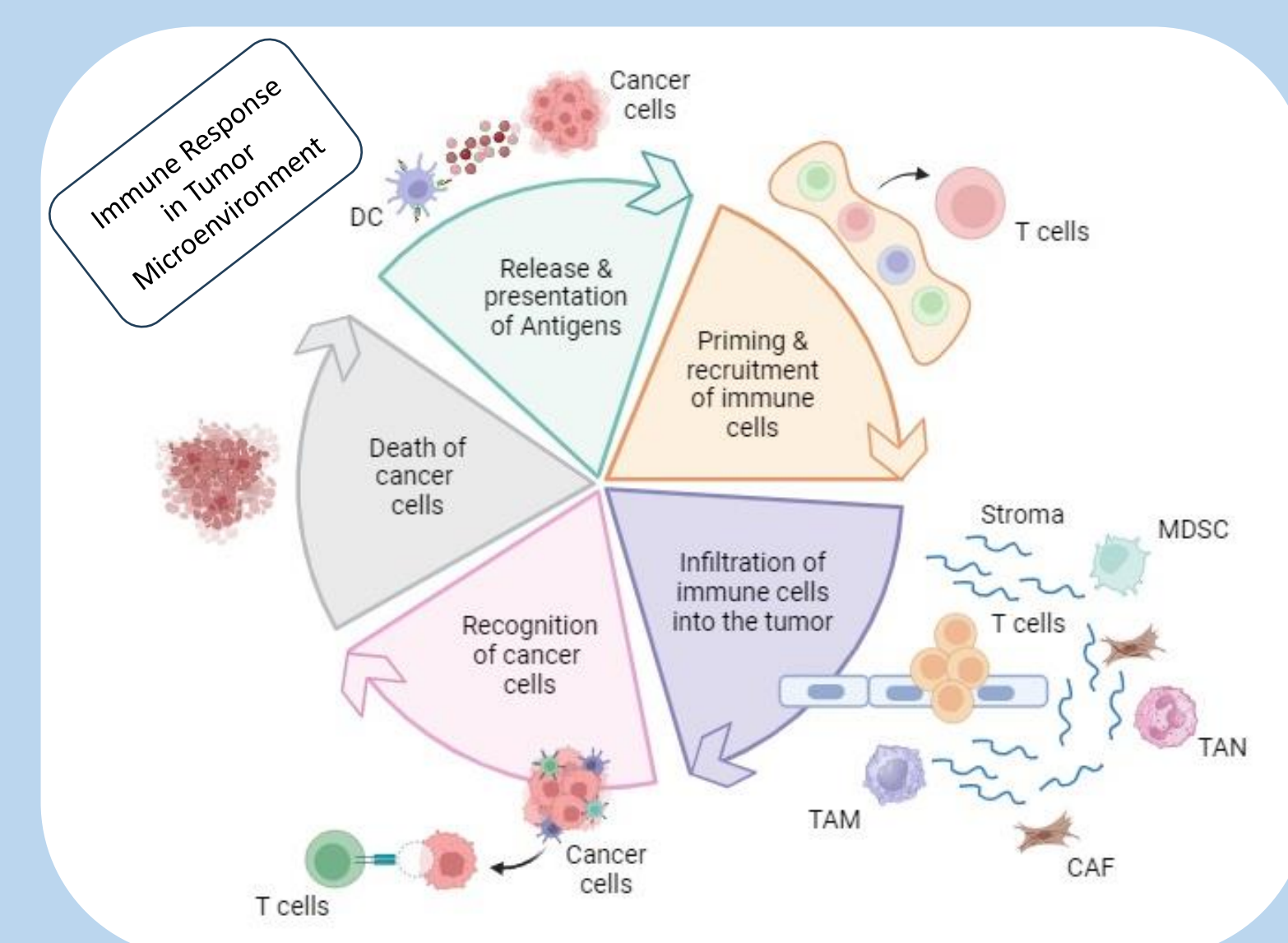


- **What is it?**
Cancers usually begin in the squamous cells progression in mucosal surfaces of the head and neck (mouth, throat, and voice box).
- **What causes?**
 - Alcohol and tobacco use
 - Infection with cancer-causing types of HPV
 - Radiation & occupational exposure
 - Ancestry



Immunity Against Cancer & Treatments

- **Immune system** is not just a defense against infective pathogens but also against cancer cells. At the beginning, responses is characterized by innate and adaptive immune cells but further the tumor cells try to escape, continue to grow and expand in an uncontrolled manner.
- **Treatments:**
Surgery, radiation therapy, chemotherapy, immunotherapy, or a combination of treatments.
- ✓ **Radiotherapy** can boost the body's immune response against tumors.



Characterizing the effects of Radiotherapy on the circulating immune cell profile

To identifying the potential biomarkers to:

- **Estimate disease development**
- **Predict recurrence risk**

