



# Role of nuclear medicine and radiology in cancer management

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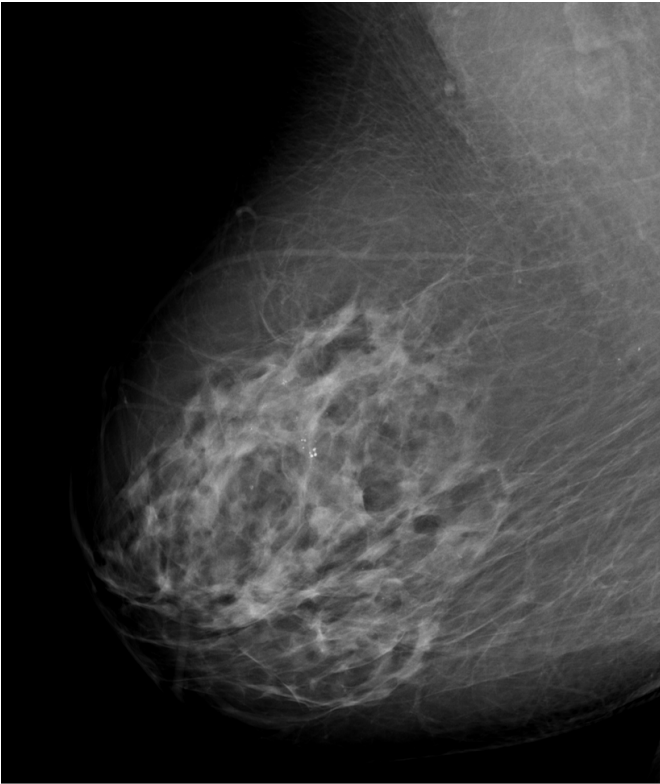
# Rationale in Cancer Management

- **Early and precise detection of the primary lesion**
  - Early detection of primary lesion has proved to improve survival in selected types of cancer
- **Accurate staging and restaging**
  - Correct staging is of utmost importance for planning adjuvant therapy and follow up
- **Therapy monitoring and follow up**
  - Changing non-effective and/or toxic treatments allow more cost-effective protocols to manage cancer patients
- **Tumor tissue and molecular characterization**
  - In the era of target and molecular oriented therapies, evaluate the molecular profile of a systemic disease than of a single lesion might save cost and time

# Ideal Imaging Test

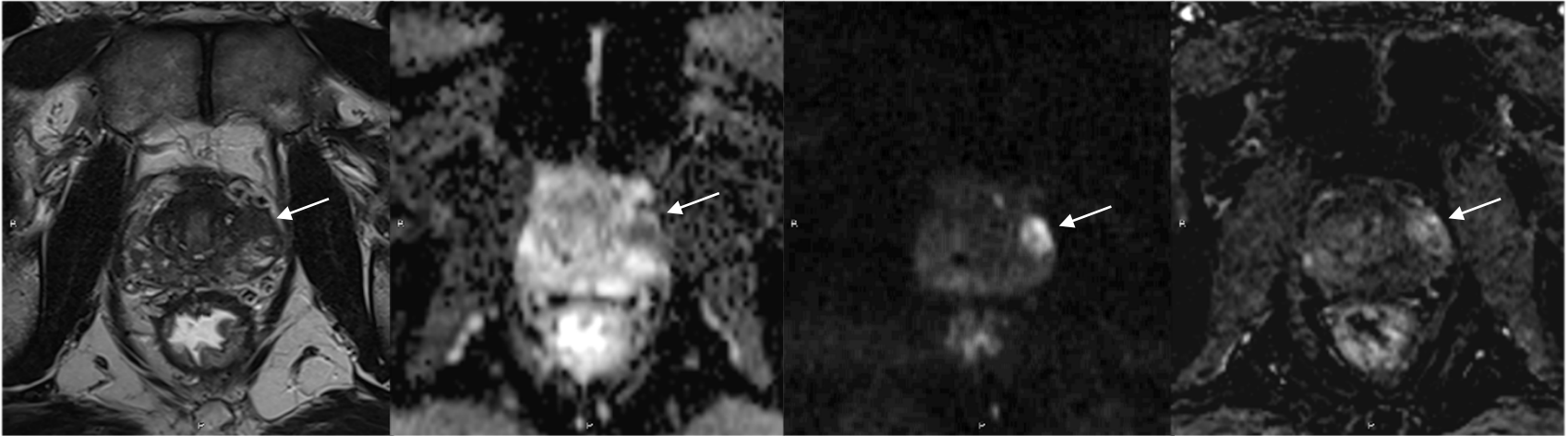
- Detect disease early enough to allow complete cure
- Change the natural history of the disease
- Increase overall survival (reduce mortality)
- No morbidity or risks involved
- No or minimum false positive results
- Affordable cost

# Early Detection

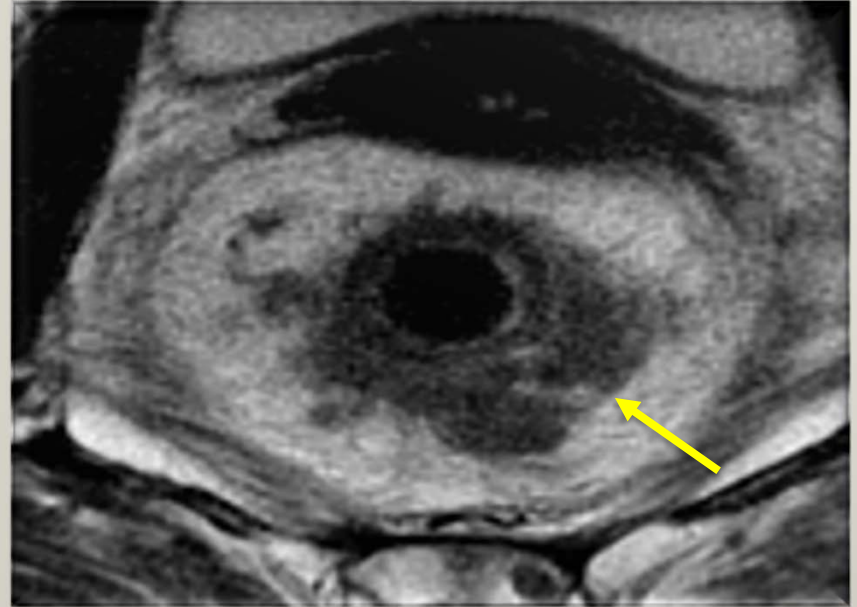
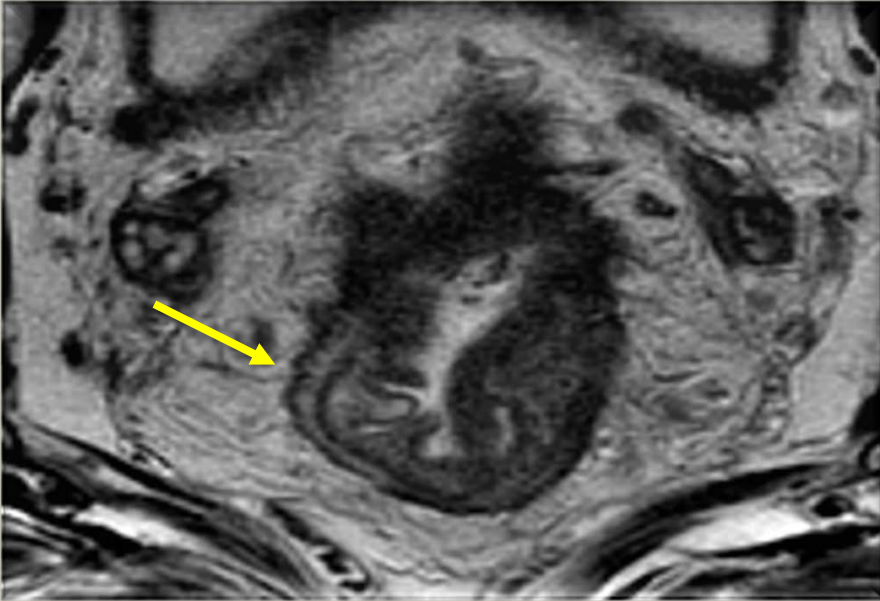


	Program	Mortality
Blanks et al. BMJ 2000;321:665–669	UK	21,3%
Duffy et al. Cancer 2002;95:458–469	Sweden	39%
Paci et al. Br J Cancer 2002;87:65–69	Italy	50%

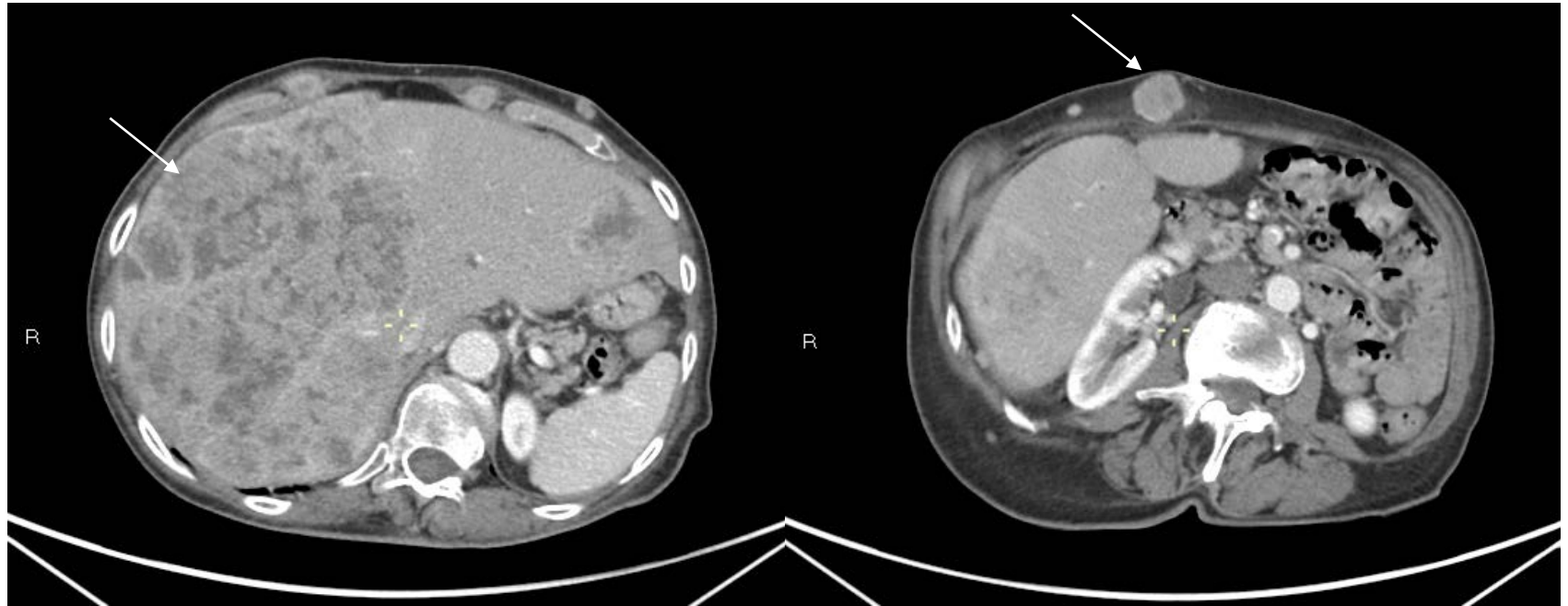
# Detection: Primary Lesion



## Local Staging

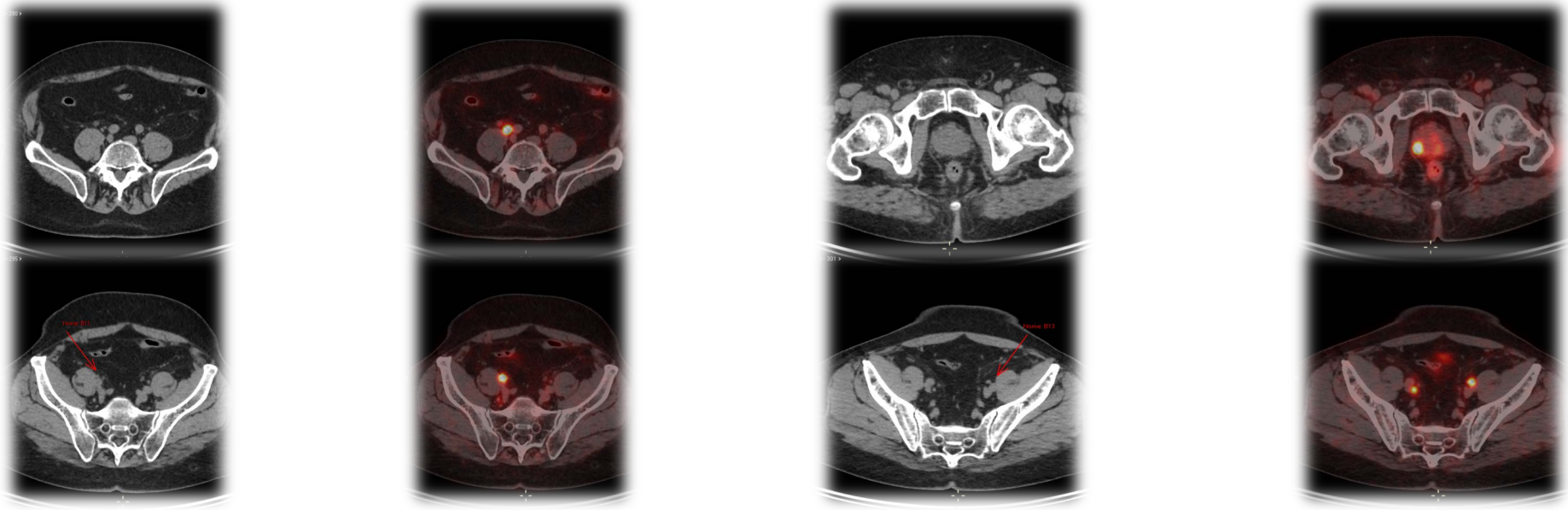


# Systemic Staging

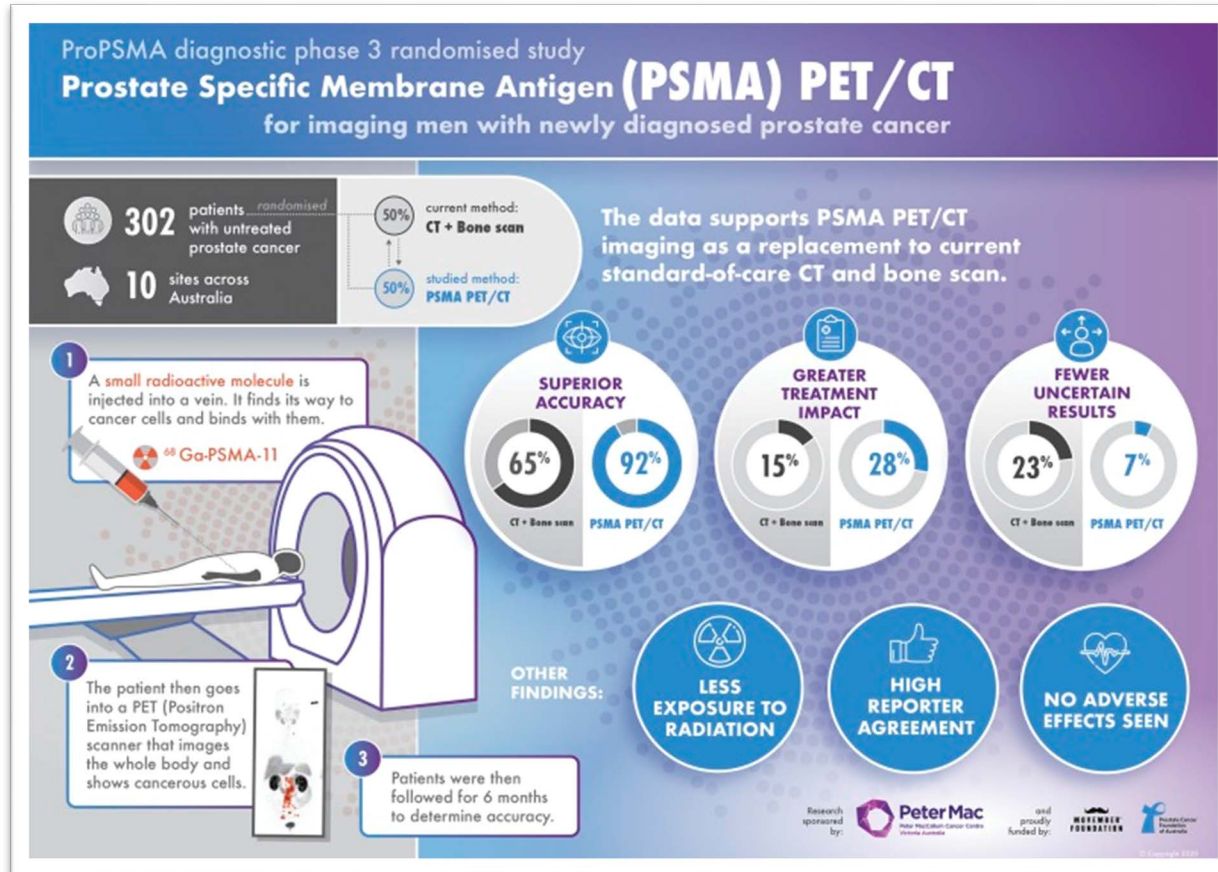


# Staging and Changing Cancer Management

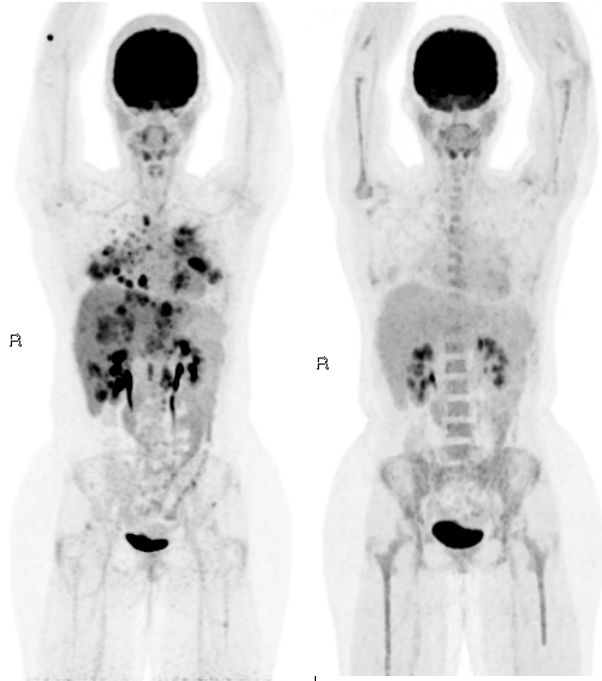
**Gleason score 9; PSA: 17; Clinical T2**



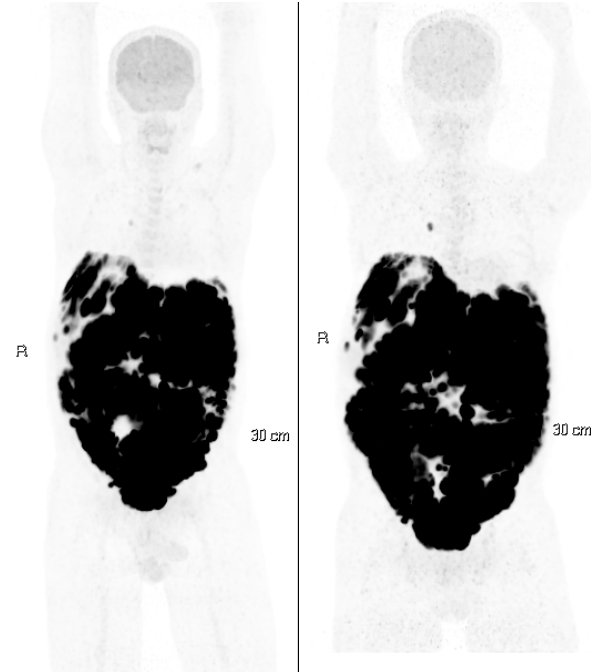
## Level of Evidence



# Evaluation of Therapy Efficacy



**GOOD RESPONSE**



**BAD RESPONSE**