

# Integrating Staging of Colorectal Cancer

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# Staging of Colorectal Cancer

- Prediction of survival
- Determination of treatment
- Entry into trials
- Response to different therapeutic modalities



# Staging of Colorectal Cancer

- Confusion for nearly 80 years
- Some attempt at uniformity
- Opportunity to standardise staging



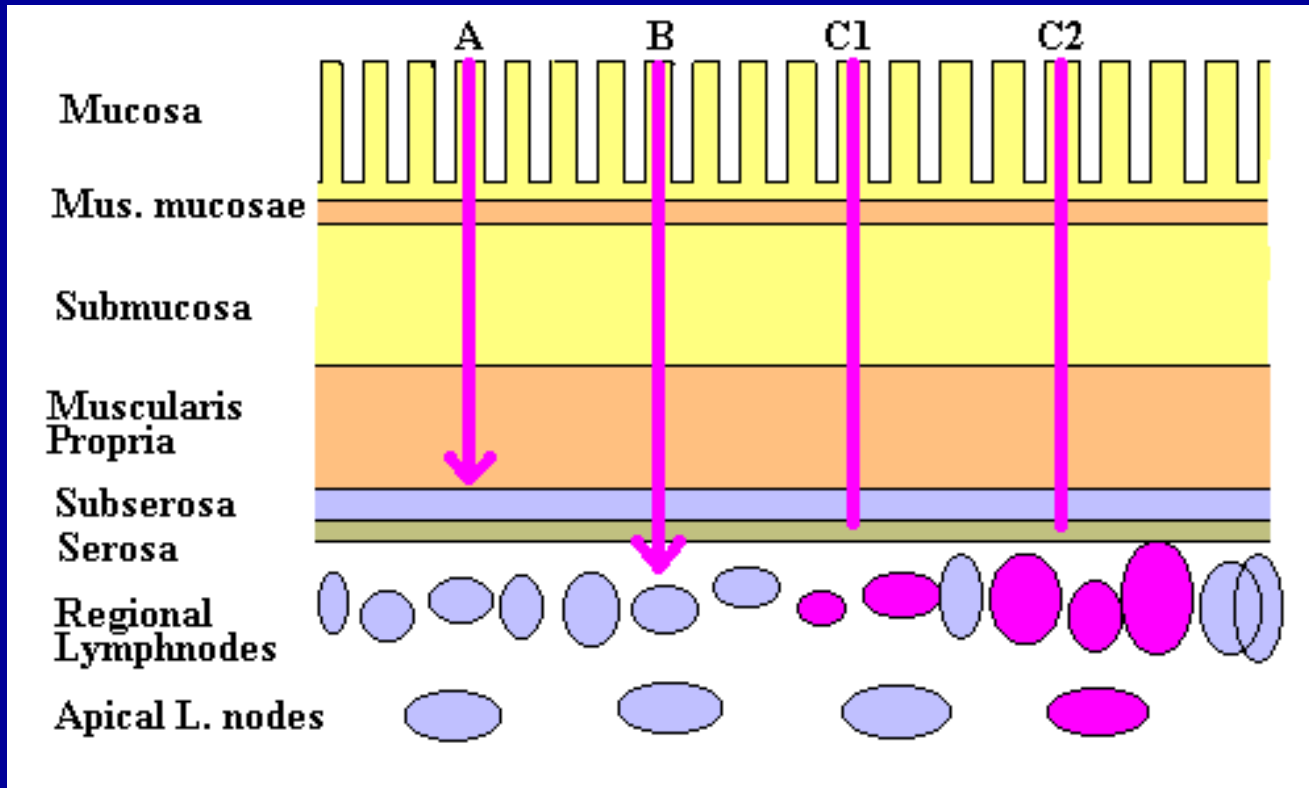
# Staging of Colorectal Cancer

- 1932 Dukes' classification
- 1949 Kirklin's classification
- 1954 Astler-Coller system
- 1988 TNM (now version 7)



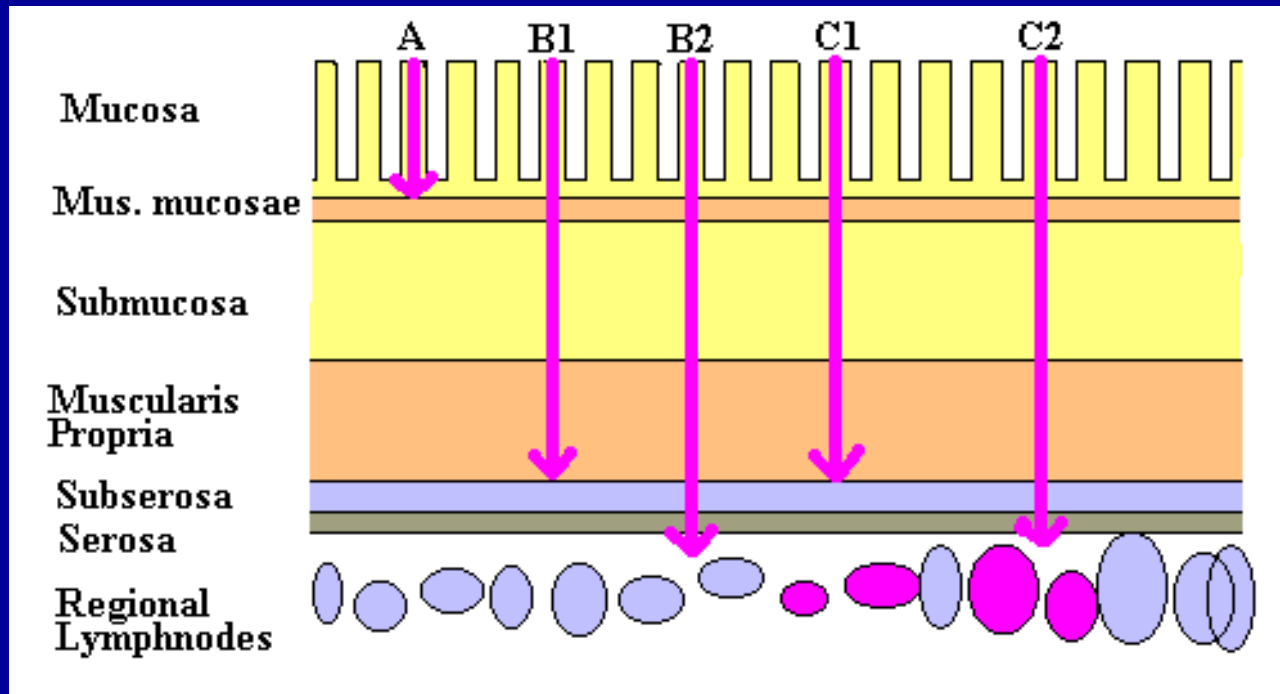
# Staging of Colorectal Cancer

## Dukes' Stage



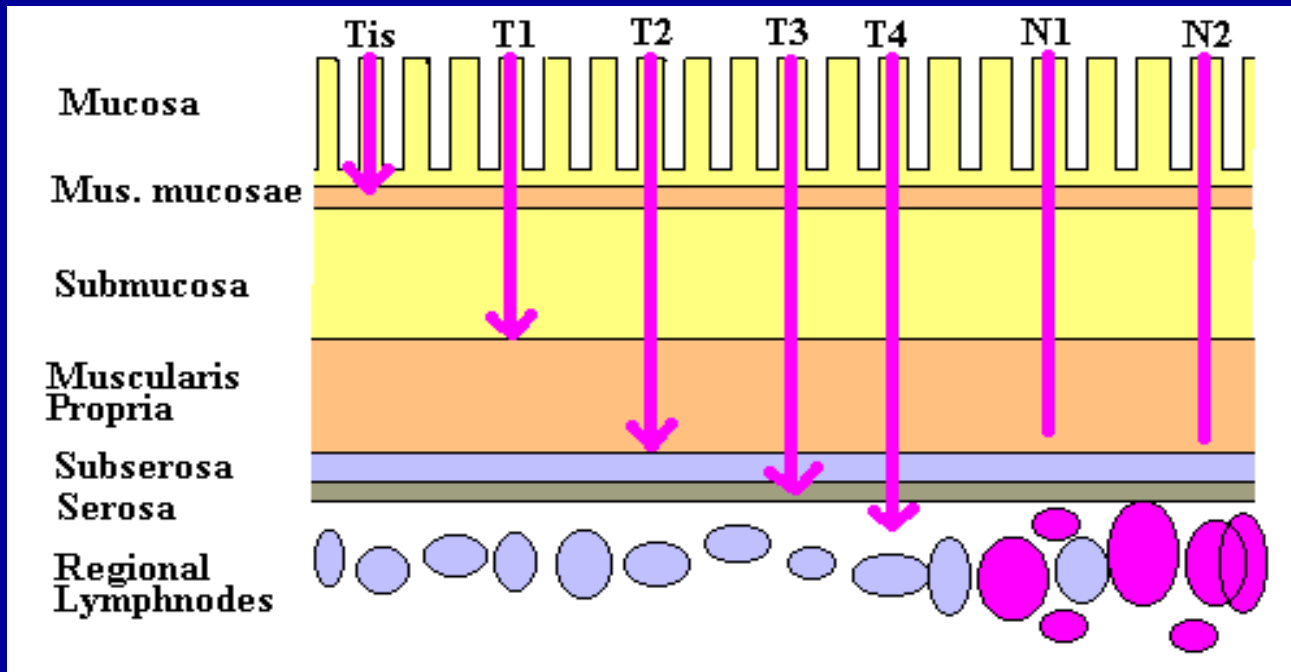
# Staging of Colorectal Cancer

## Astler-Coller



# Staging of Colorectal Cancer

## TNM Staging



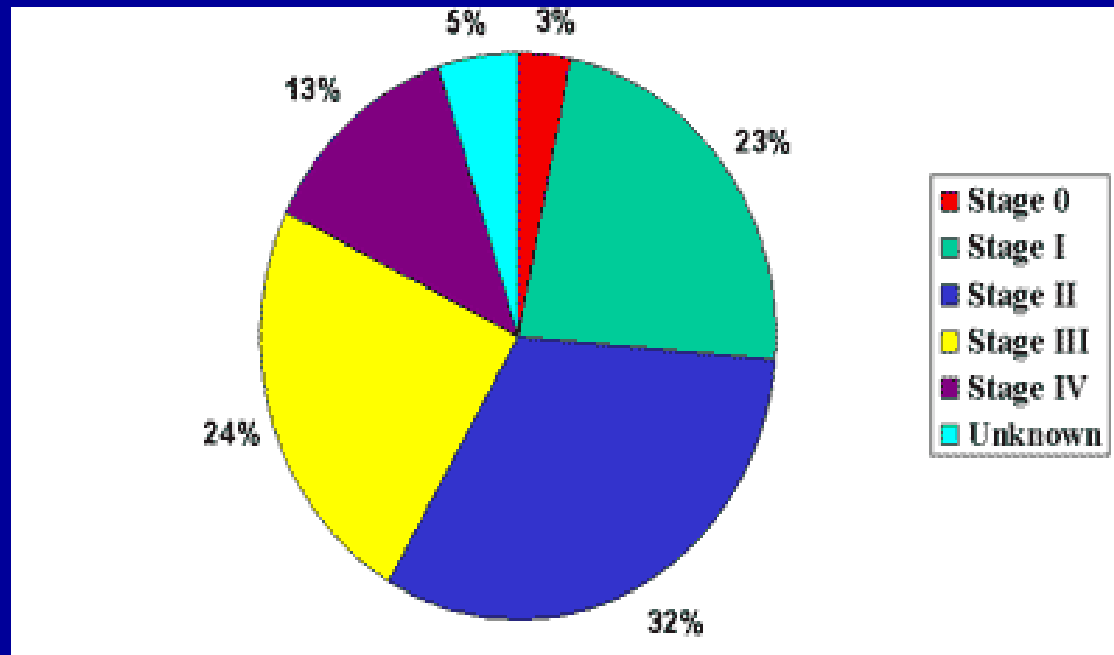
# Staging of Colorectal Cancer

Stage	T	N	M
0	Tis	N0	M0
I	T1-2	N0	M0
II	T3-4	N0	M0
III	Any T	N1-2	M0
IV	Any T	Any N	M1





# Staging of Colorectal Cancer



# Staging of Colorectal Cancer

Stage	T	N	M
I	T1-2	N0	M0
IIA	T3	N0	M0
IIB	T4	N0	M0
III A	T1-2	N1	M0
IIIB	T3-4	N1	M0
IIIC	Any T	N2	M0



# Staging of Colorectal Cancer

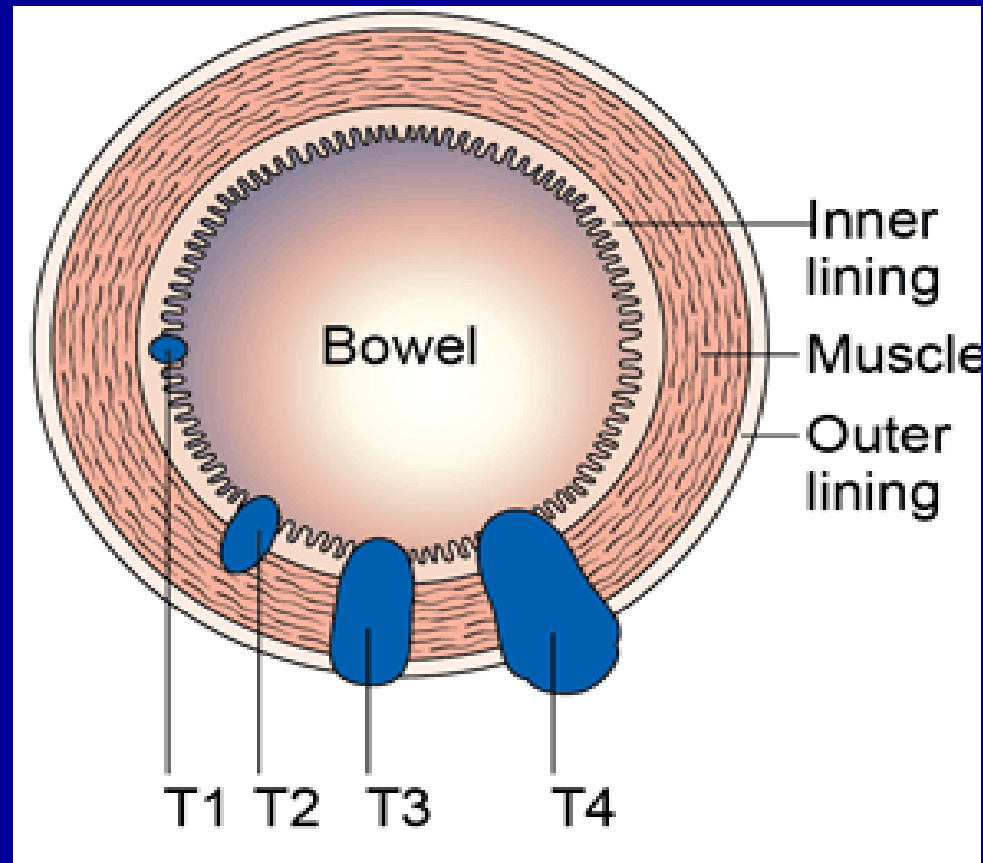
## TNM Staging

- Clinical TNM
- Pathological TNM
- Integrated (clinico-pathological) TNM

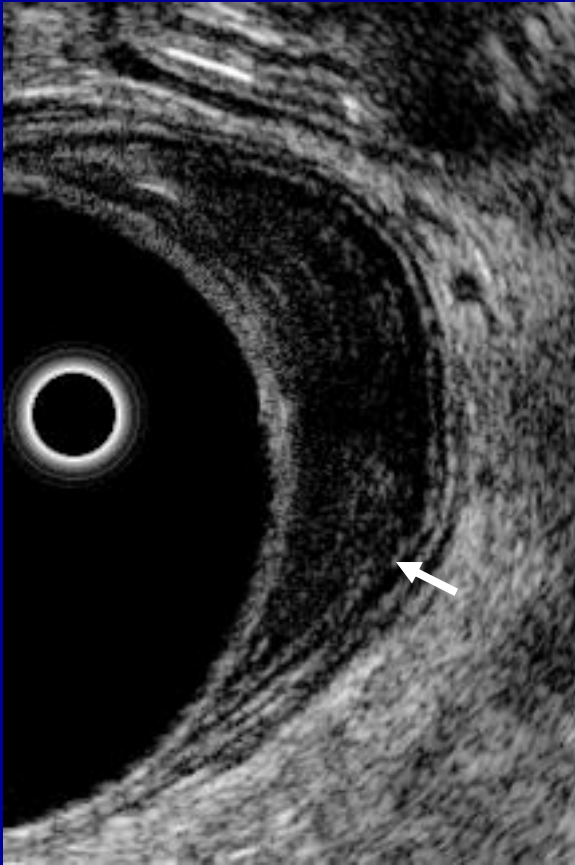


# Staging of Colorectal Cancer

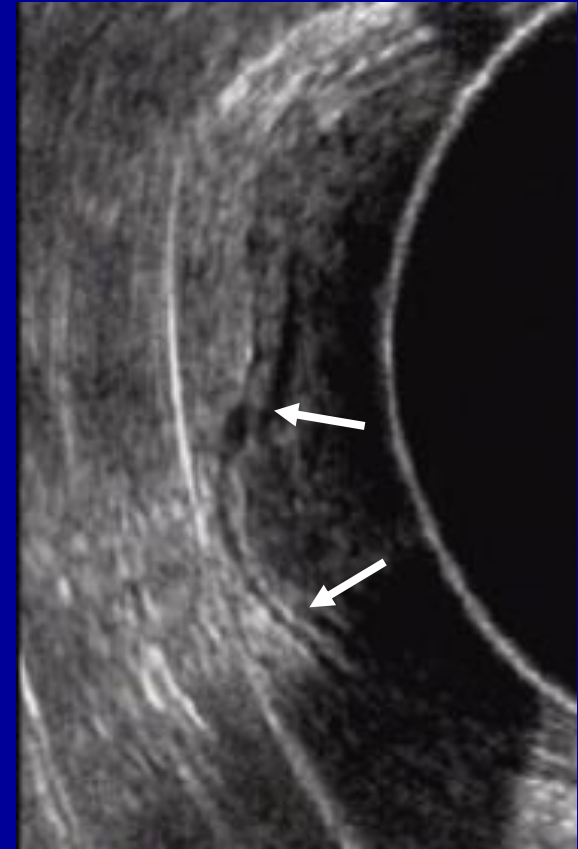
## T-stage



T0 : T1

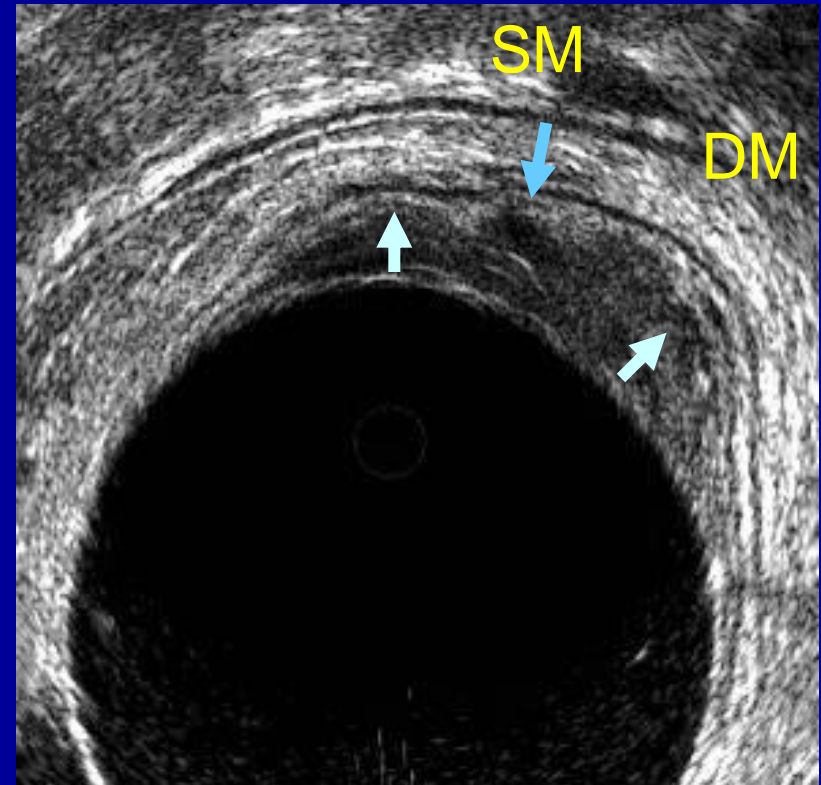
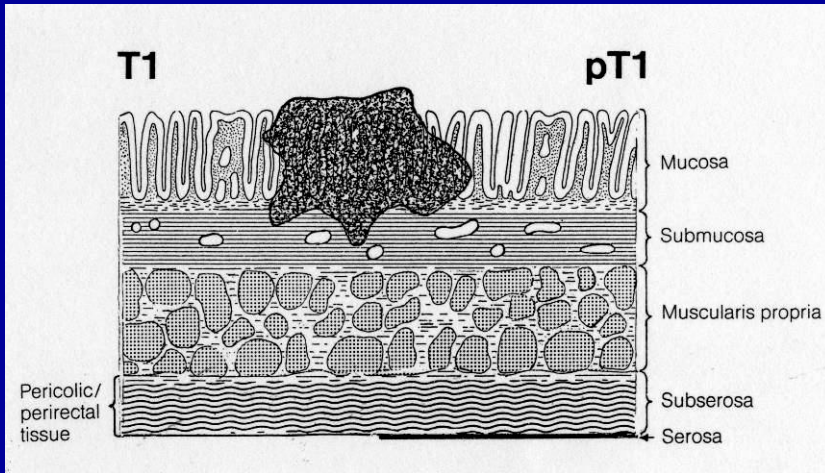


Deep mucosal layer  
intact = T0



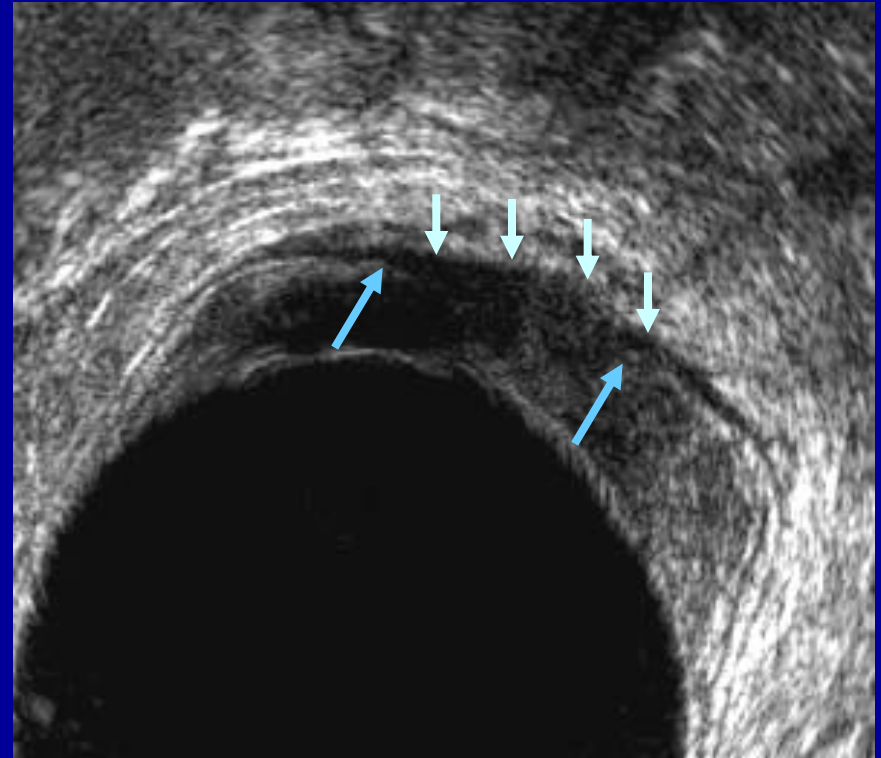
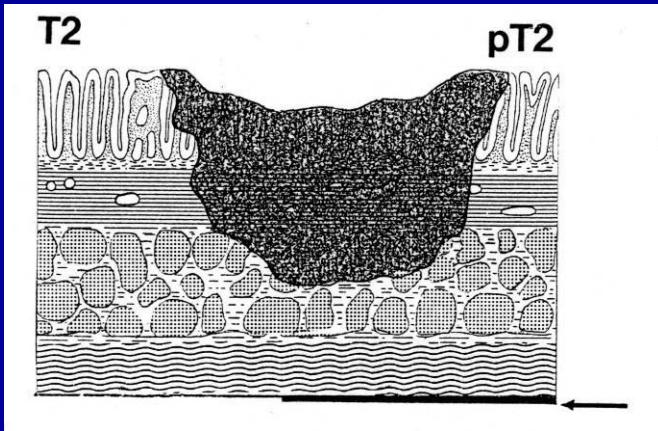
Disruption deep mucosal  
layer = T1

# T1

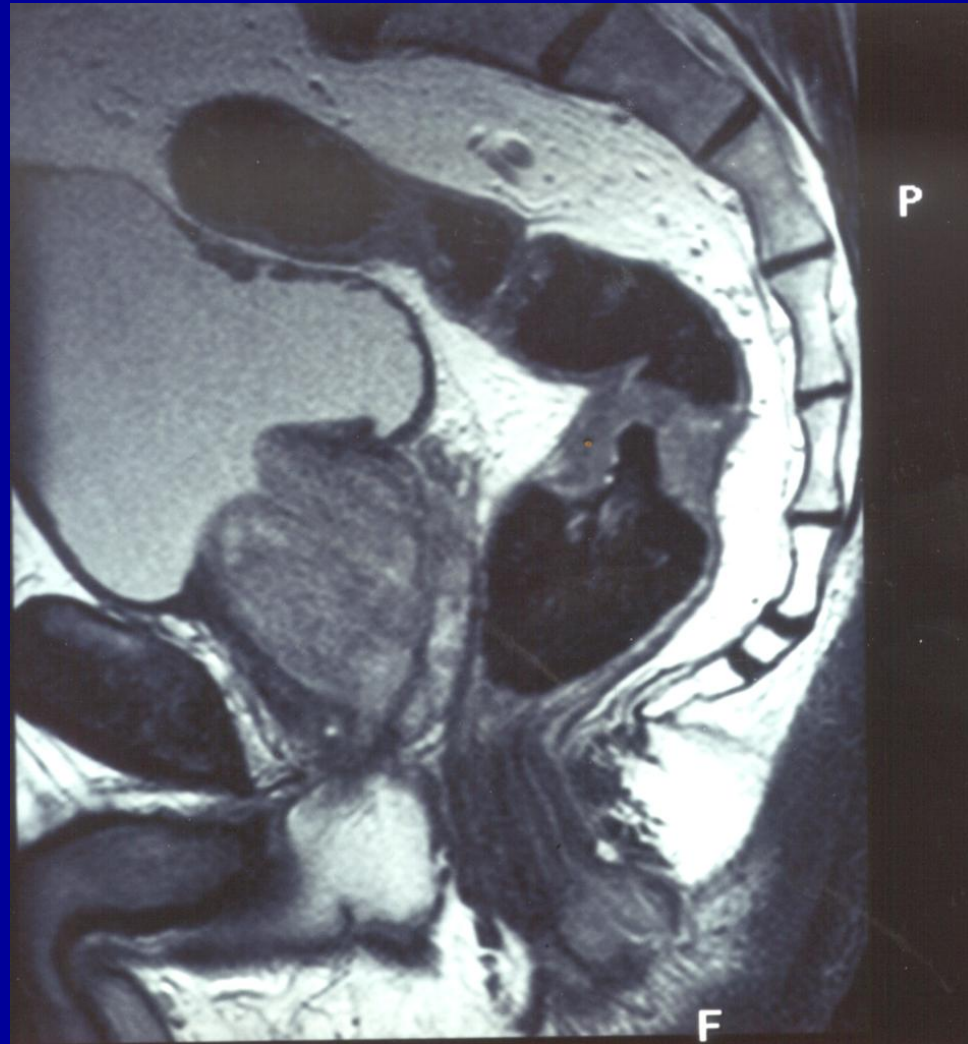


Submucosa intact but loss part deep mucosal layer

# T2

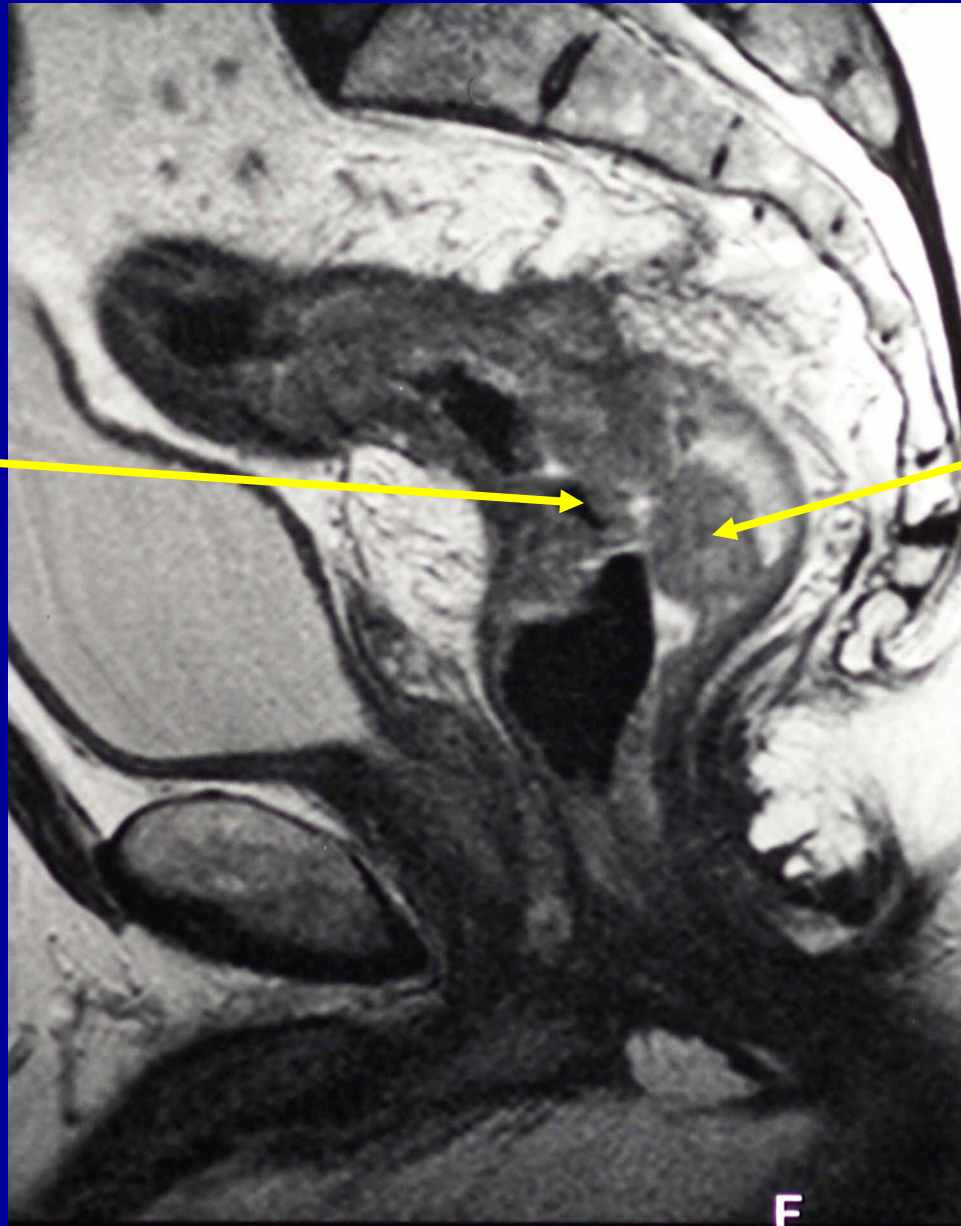


Submucosal reflection lost- outer border MP intact





Advanced  
rectal tumour



Mesorectal  
deposit

F

# Staging of Colorectal Cancer

## Nodal Staging



# Staging of Colorectal Cancer

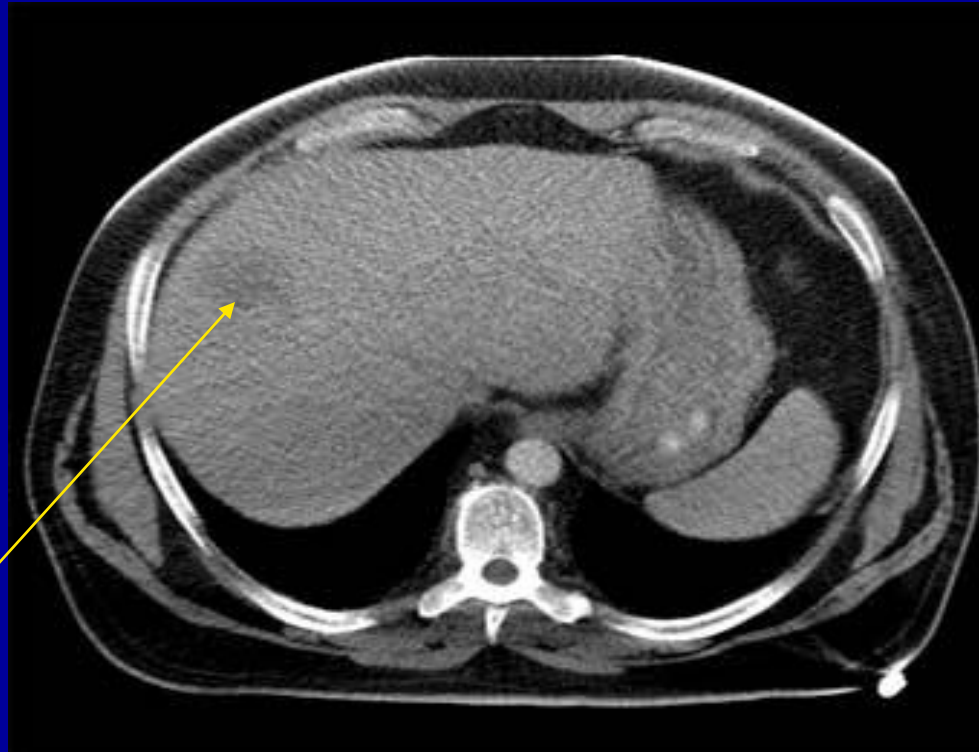
## Nodal staging

- Certainly operator dependent
- Loose relationship with size
- Some relationship with contour
- Loose relationship with sonographic appearances
- Hope for lymph node specific agents



# Staging of Colorectal Cancer

## TNM Staging



Solitary hepatic  
metastasis



# Staging of Colorectal Cancer

## Problems with Clinical TNM

- Accurate assessment of T-stage pre-operatively
- Always difficulty with nodal disease
- Refined scanning with MR, CT and PET
- Involvement of RCR



# Staging of Colorectal Cancer

## Problems with Pathological TNM

- Poor clinical evidence for change
- Classification of mesorectal deposits
- Influence of pre-operative therapy
- Lack of reproducibility
- Stage migration and influence on treatment



# Staging of Colorectal Cancer

## Problems with Pathological TNM

- Define and agree on R0, R1 and R2 status
- Attempt to resolve issues around mesorectal deposits (N or T) including size and contour
- Ensure that “y” prefix is used
- Work with agreed proformas from R.C. Path



# Staging of Colorectal Cancer

## TNM Staging

- Pre-op MDT – clinical TNM stage
- Post-op MDT – pathological TNM stage
- Pre-op treatment – “y” prefix
- Overall integrated TNM stage  
(e.g. pT2, pN1, cM1, R0, V1)





# Staging of Colorectal Cancer

## Proposal from NYCRIS

- Continue with 5<sup>th</sup> edition of TNM
- Modify databases to record clinical, pathological and integrated TNM stage
- Advice needed on position of stage after pre-operative (“y”) treatment
- Links with NBOCAP audit and NCIN

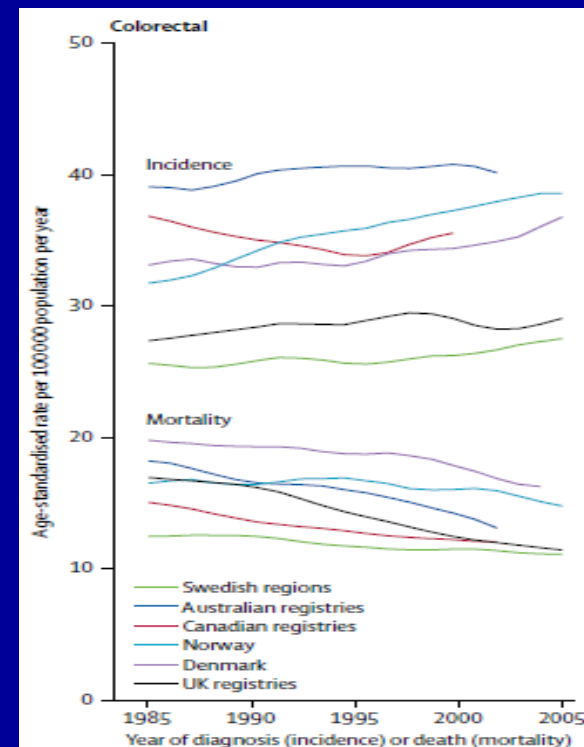
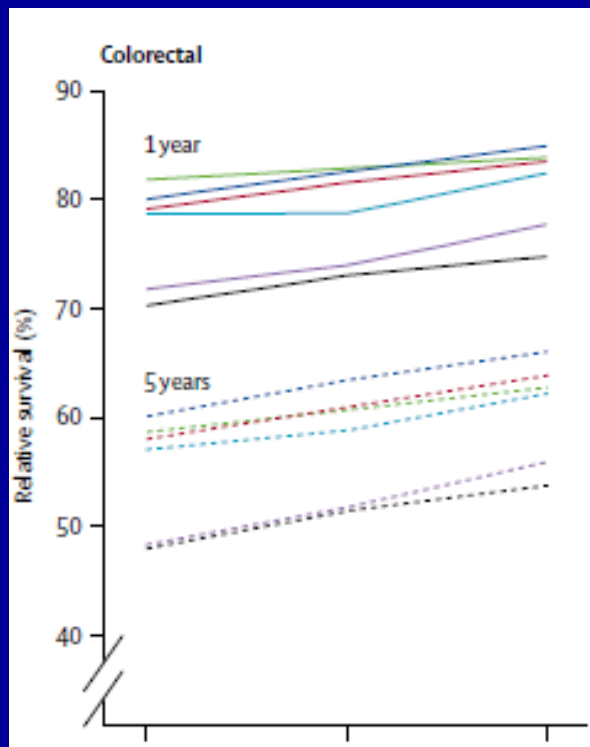


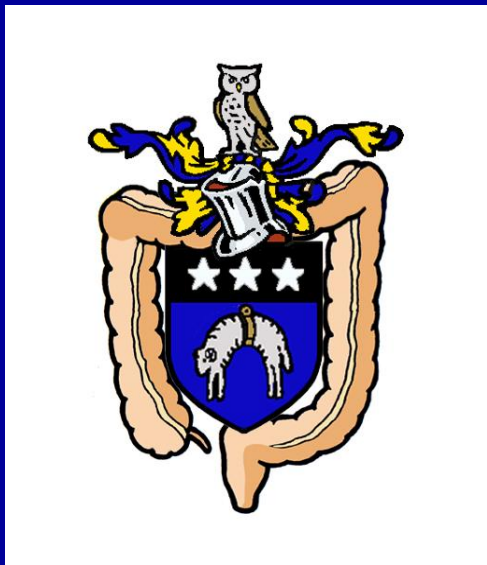
# Staging of Colorectal Cancer

Cancer survival in Australia, Canada, Denmark, Norway, Sweden, and the UK, 1995–2007 (the International Cancer Benchmarking Partnership): an analysis of population-based cancer registry data



*M P Coleman, D Forman, H Bryant, J Butler, B Rachet, C Maringe, U Nur, E Tracey, M Coory, J Hatcher, C E McGahan, D Turner, L Marrett, M L Gjerstorff, T B Johannesen, J Adolfsson, M Lambe, G Lawrence, D Meechan, E J Morris, R Middleton, J Steward, M A Richards, and the ICBP Module 1 Working Group\**





# Staging of Colorectal Cancer

