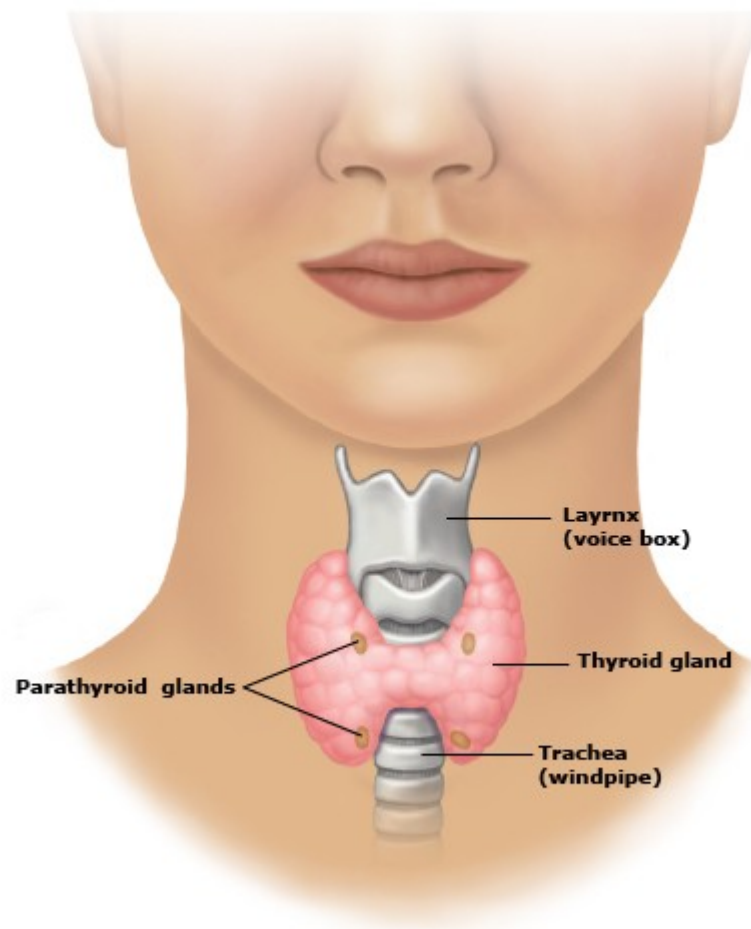


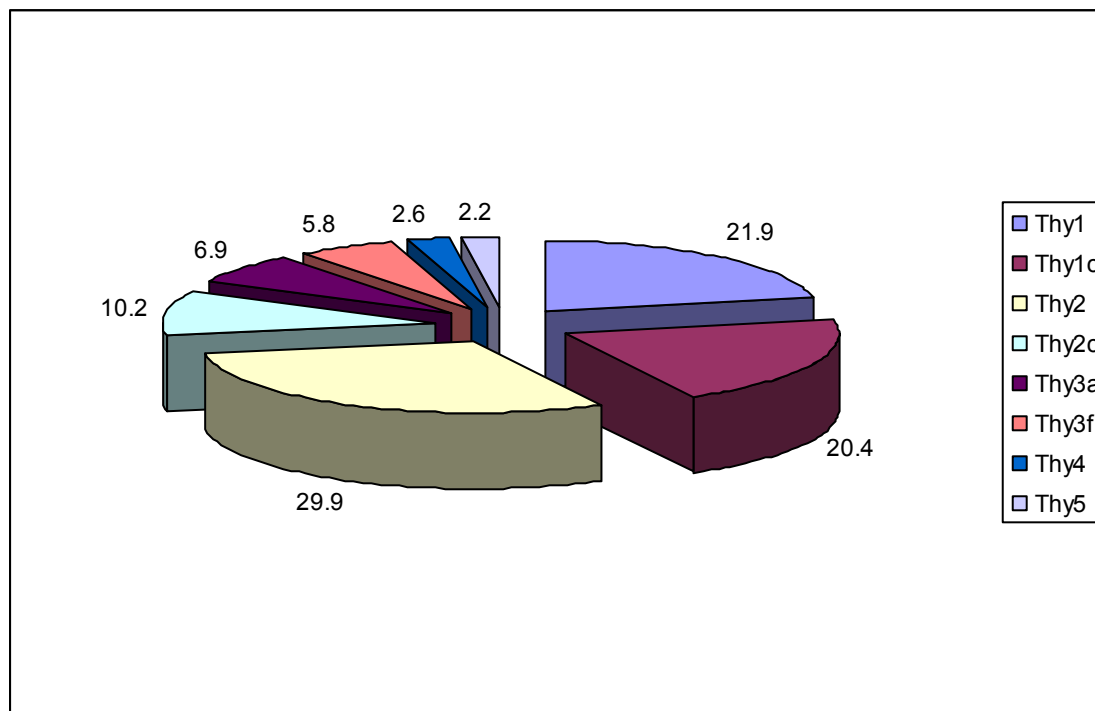
The thyroid gland

Anatomy





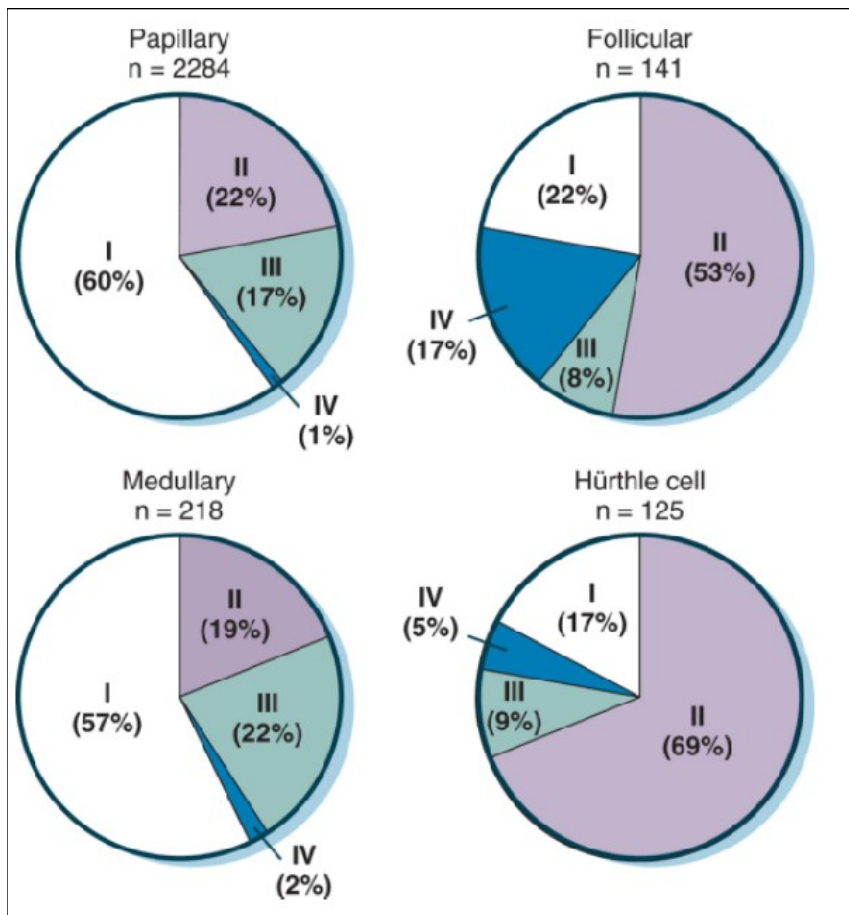
- 6% of women and 2% of men have palpable thyroid nodules
- Up to 75% of people have thyroid nodules on ultrasound scans
- Only 5% of palpable thyroid nodules are thyroid cancers



Results of 274 FNAs over a 21 month period (2011/2012):

	% results	Risk of thyroid cancer*
Thy 1 & Thy 1c:	42.3%	?
Thy2 & Thy 2c:	40.1%	3.5%
Thy 3a & Thy3f:	12.7%	17.4%
Thy4:	2.6%	85%
Thy5:	2.2%	99%

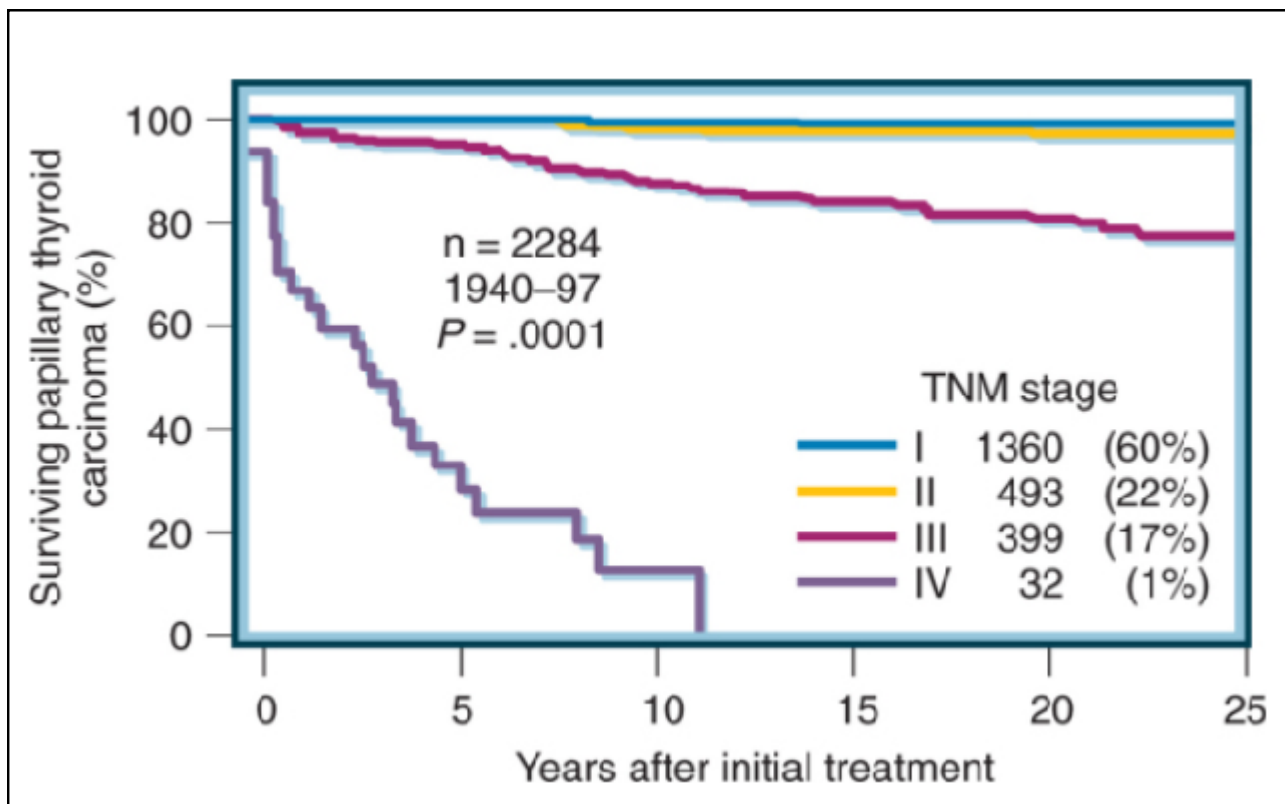
Thyroid cancer stage at diagnosis



Distribution of pathologic tumor-node-metastases (pTNM) stages in 2284 patients with papillary thyroid carcinoma (*upper left*), 218 patients with medullary thyroid cancer (*lower left*), 141 patients with follicular thyroid cancer (*upper right*), and 125 patients with Hürthle cell cancer (*lower right*) undergoing primary surgical treatment at the Mayo Clinic from 1940 to 1997.

Papillary thyroid cancer

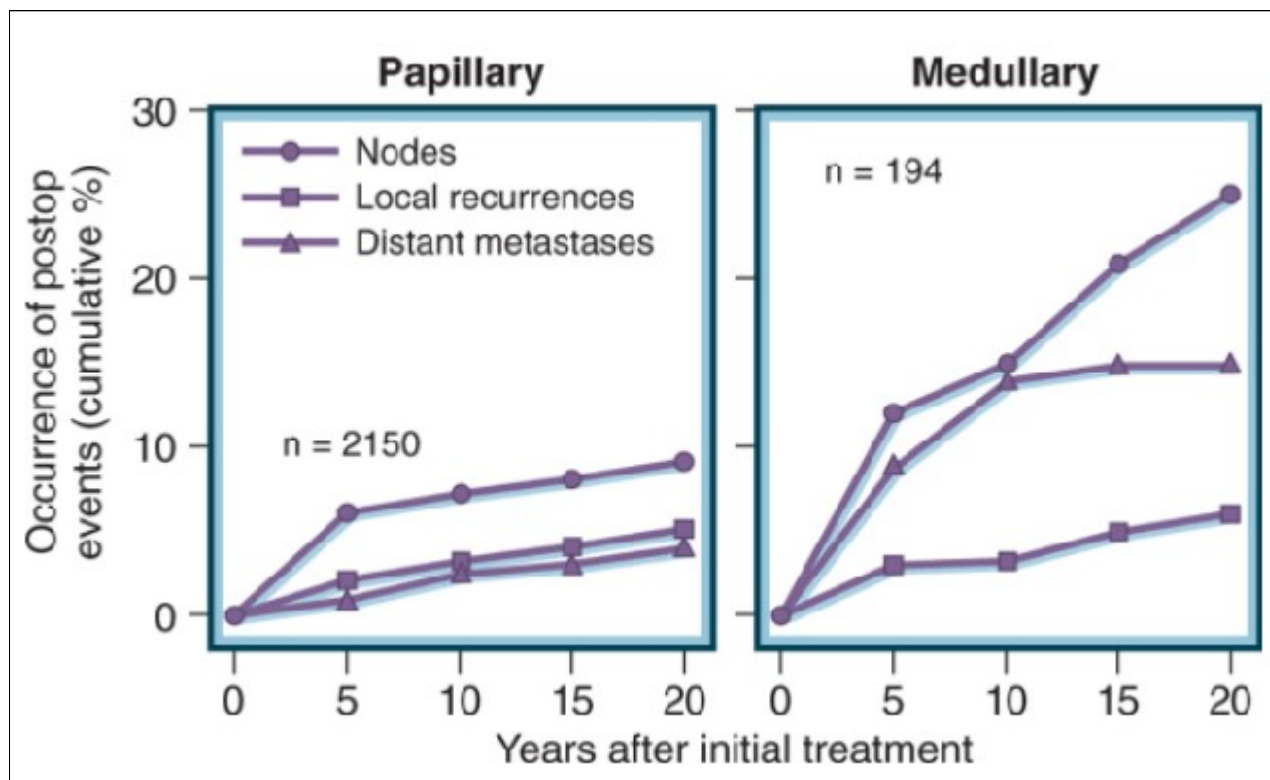
Survival by TNM stage



Cause-specific survival according to pathologic tumour-node-metastases (pTNM) stage in a cohort of 2284 patients with PTC treated at the Mayo Clinic (1940—1997). The numbers in parentheses represent the percentages of patients in each pTNM 1992 staging group.

Thyroid cancer recurrence

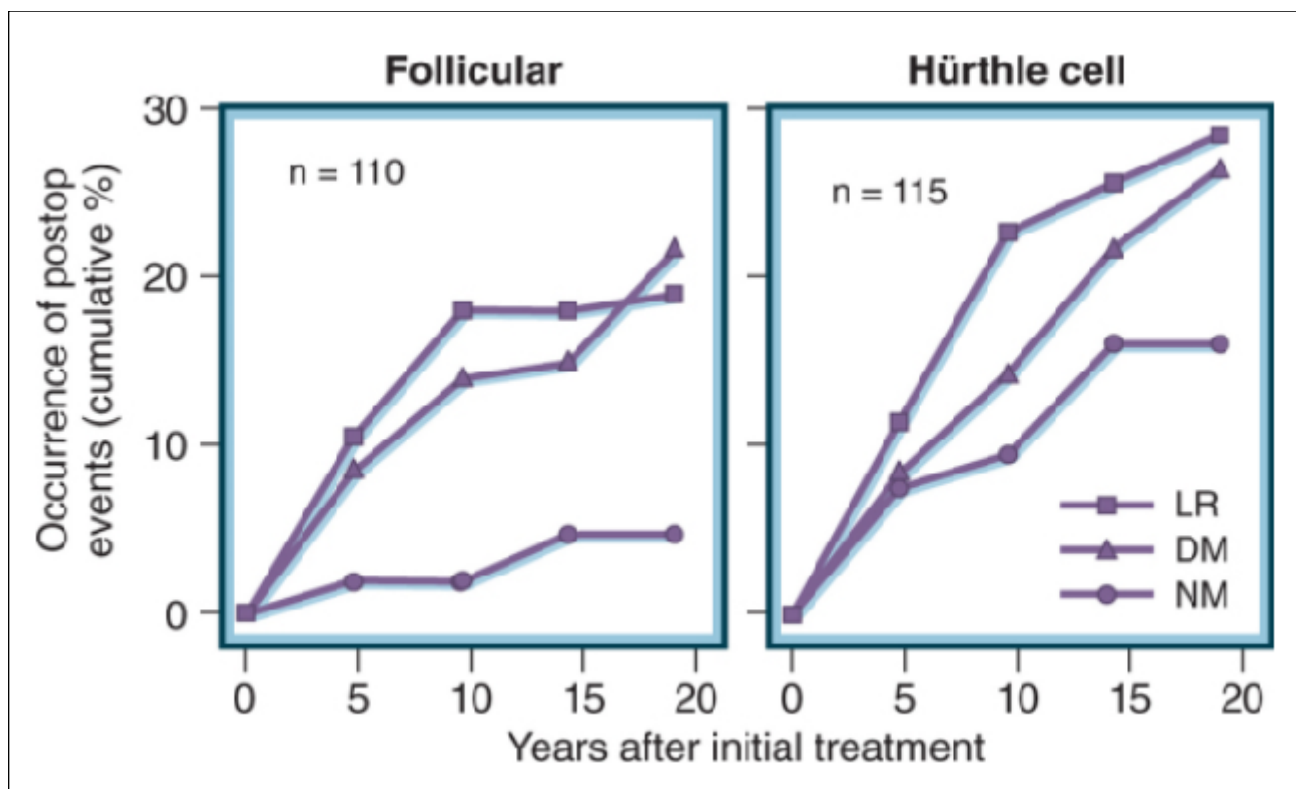
20 year follow-up (PTC & MTC)



Development of neck nodal metastases, local recurrence and distant metastases in the first 20 years after definitive surgery for PTC or MTC performed at the Mayo Clinic (1940—1997). Patients had complete surgical resection and no metastatic disease on initial examination.

Thyroid cancer recurrence

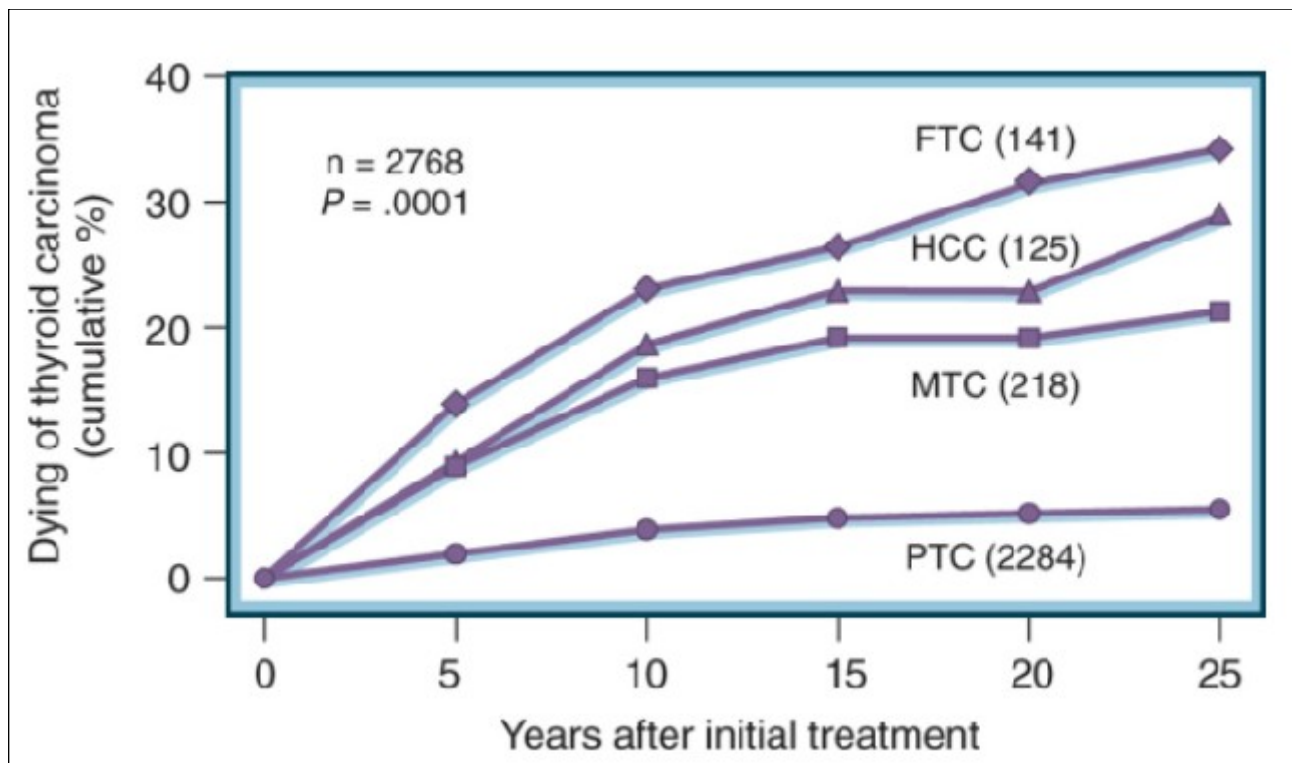
20 year follow-up (FTC & HCC)



Development of neck nodal metastases, local recurrence and distant metastases in the first 20 years after definitive surgery for FTC or HCC performed at the Mayo Clinic (1940—1997). Patients had complete surgical resection and no metastatic disease on initial examination.

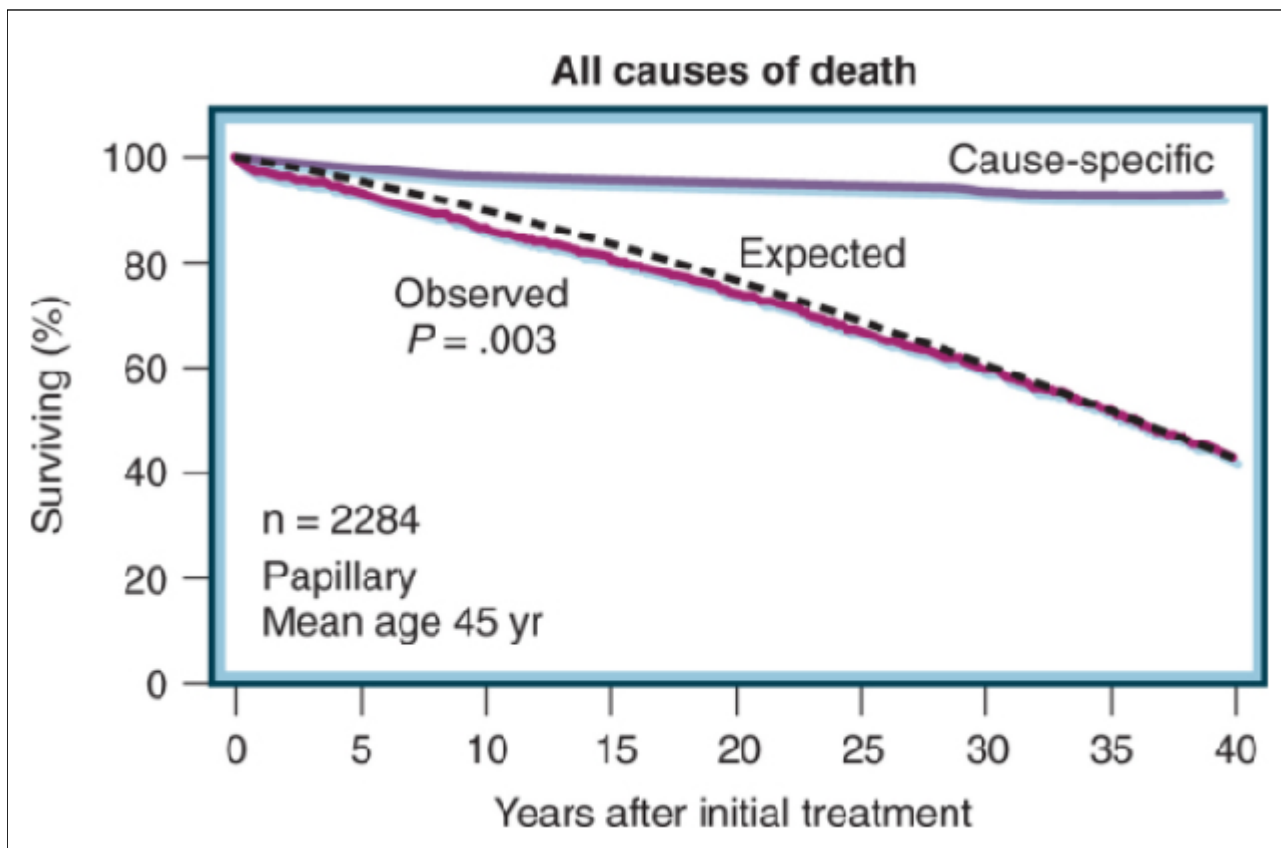
Thyroid cancer death

25 year follow-up



Cumulative cause specific mortality rates for patients with DTC in the first 25 years after treatment with initial surgery performed at the Mayo Clinic from 1940—1997.

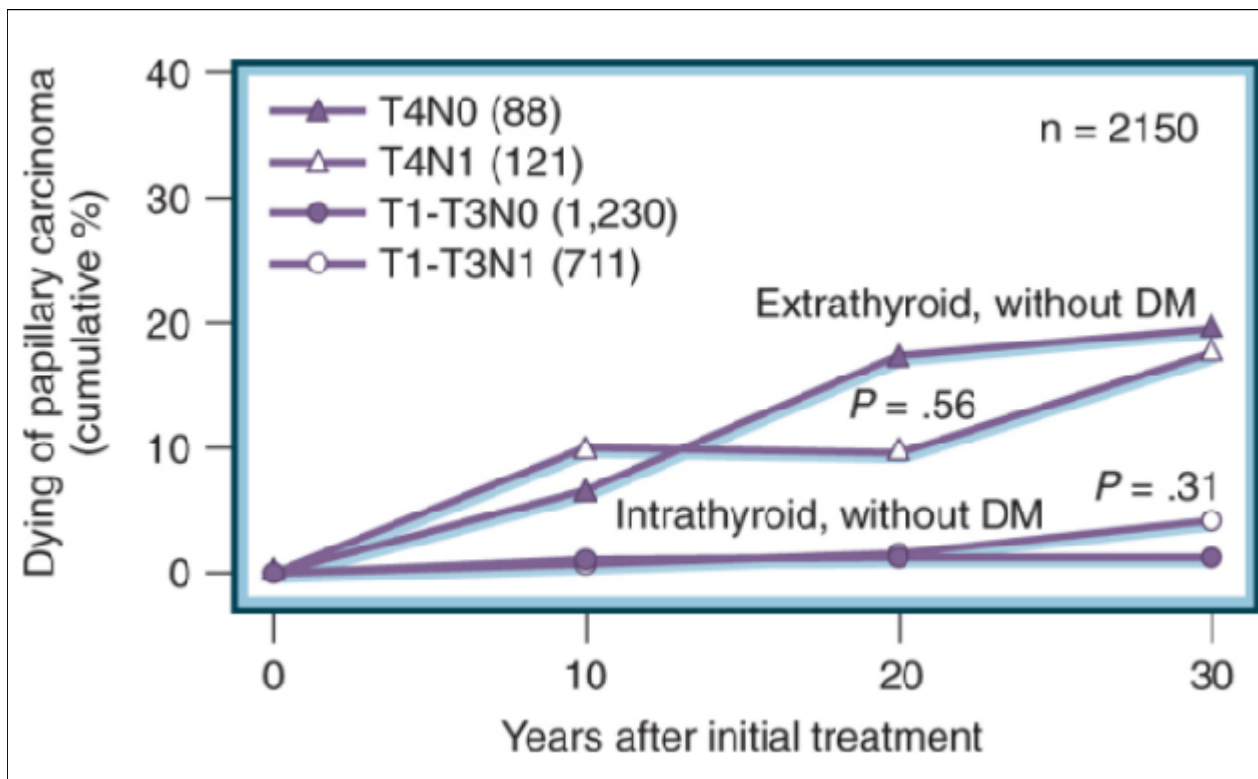
Papillary thyroid cancer death 40 year follow-up



Survival to death from all causes and to death from thyroid cancer (cause-specific mortality) in patients with PTC undergoing initial management at the Mayo Clinic (1940—1997). Also plotted is the expected survival (all causes) of persons of the same age and sex and with the same date of treatment but living under mortality conditions of the northwest central United States.

Neck node metastases

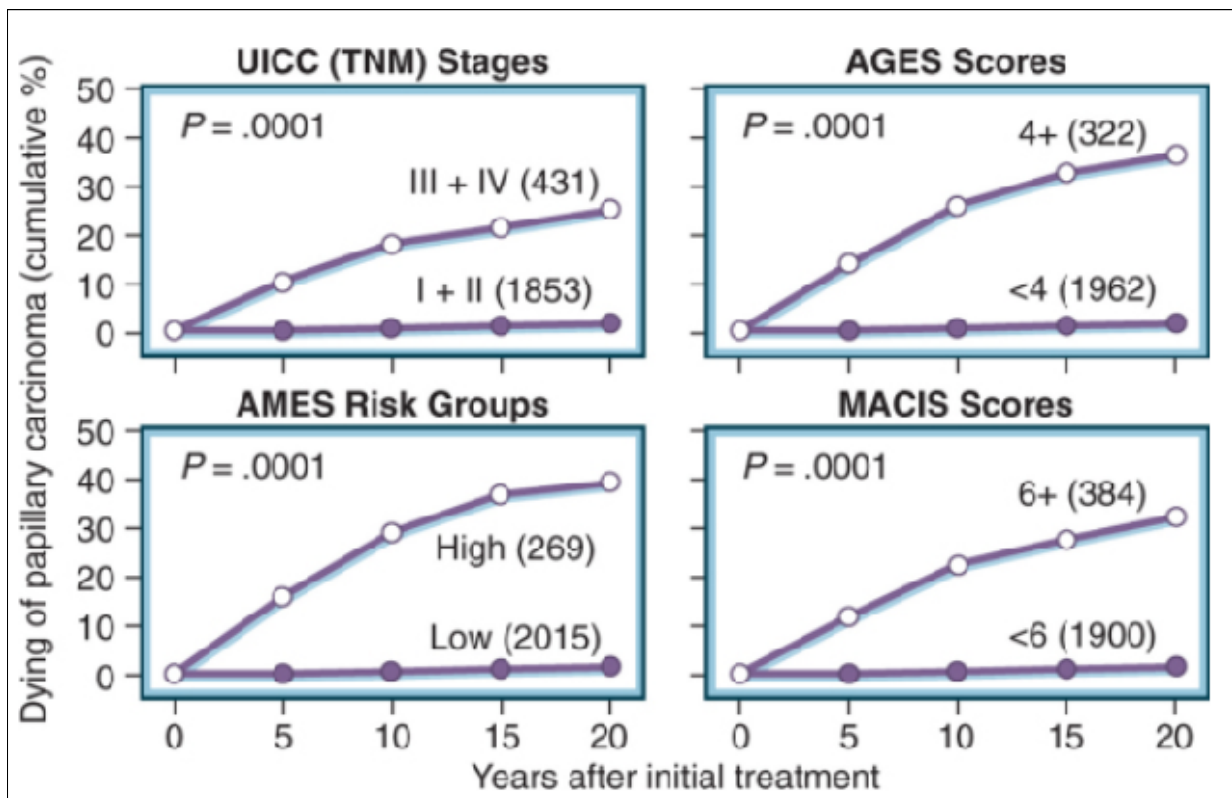
No effect on PTC mortality



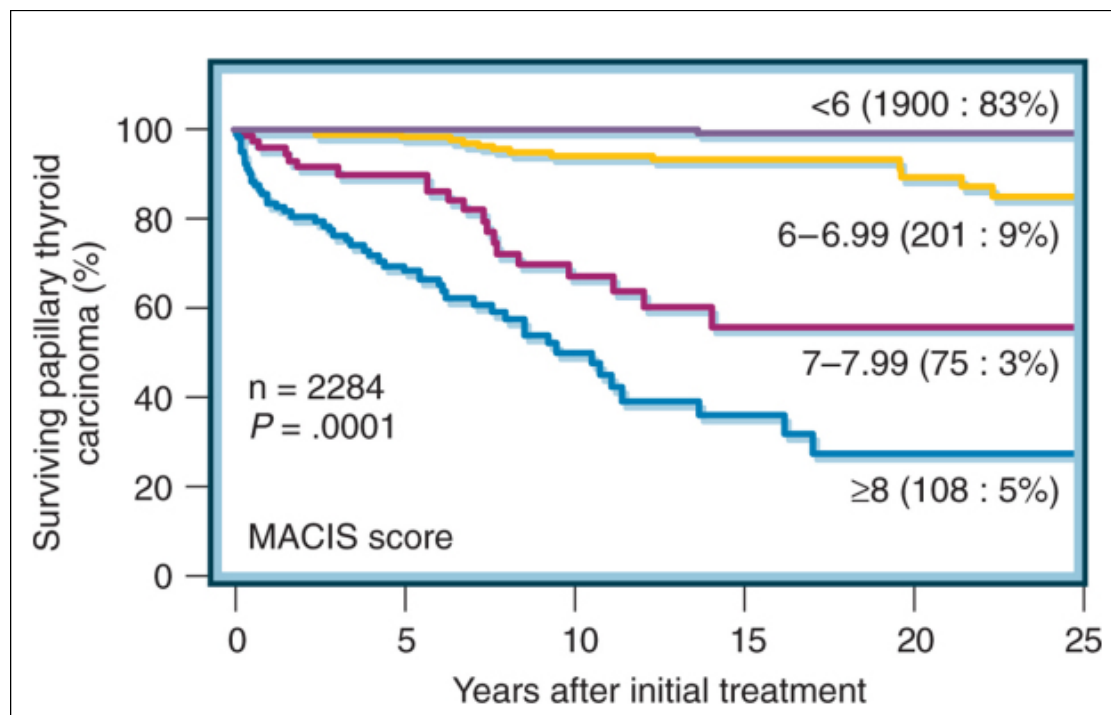
Lack of influence of nodal metastases at initial operation on cumulative mortality from papillary thyroid carcinoma in patients with intrathyroidal (pT1-3) and extrathyroidal (pT4) tumours (pTNM 1992). All patients received initial surgical treatment at the Mayo Clinic (1940—1997)

Low risk of death in papillary cancer

20 year follow-up



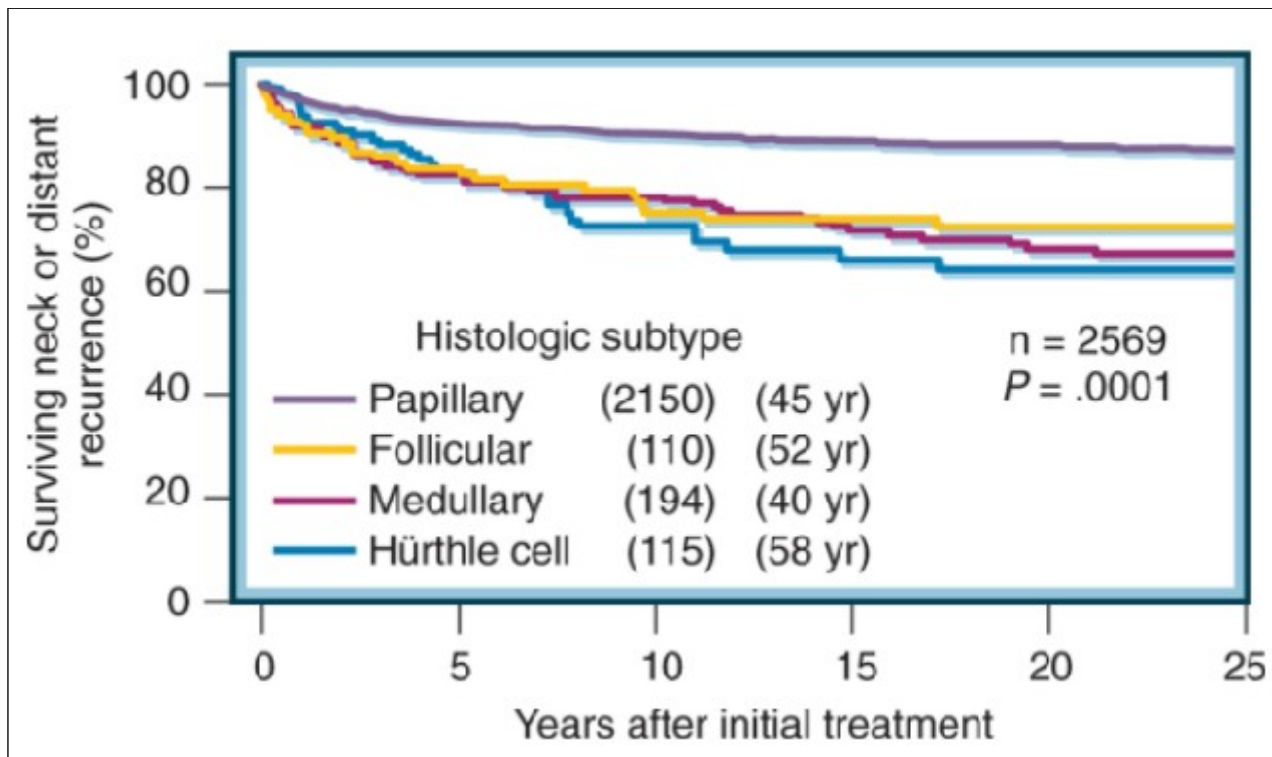
Cumulative mortality from PTC. 81% of patients are low risk by pTNM, 86% by AGES score, 88% by AMES score and 83% by MACIS score. Mayo Clinic series.



Cause-specific mortality according to MACIS score (**m**etastases, **a**ge, **c**ompleteness of resection, **i**nvasion and **s**ize of tumour). Mayo clinic series 1940—1997.

Risk of recurrence

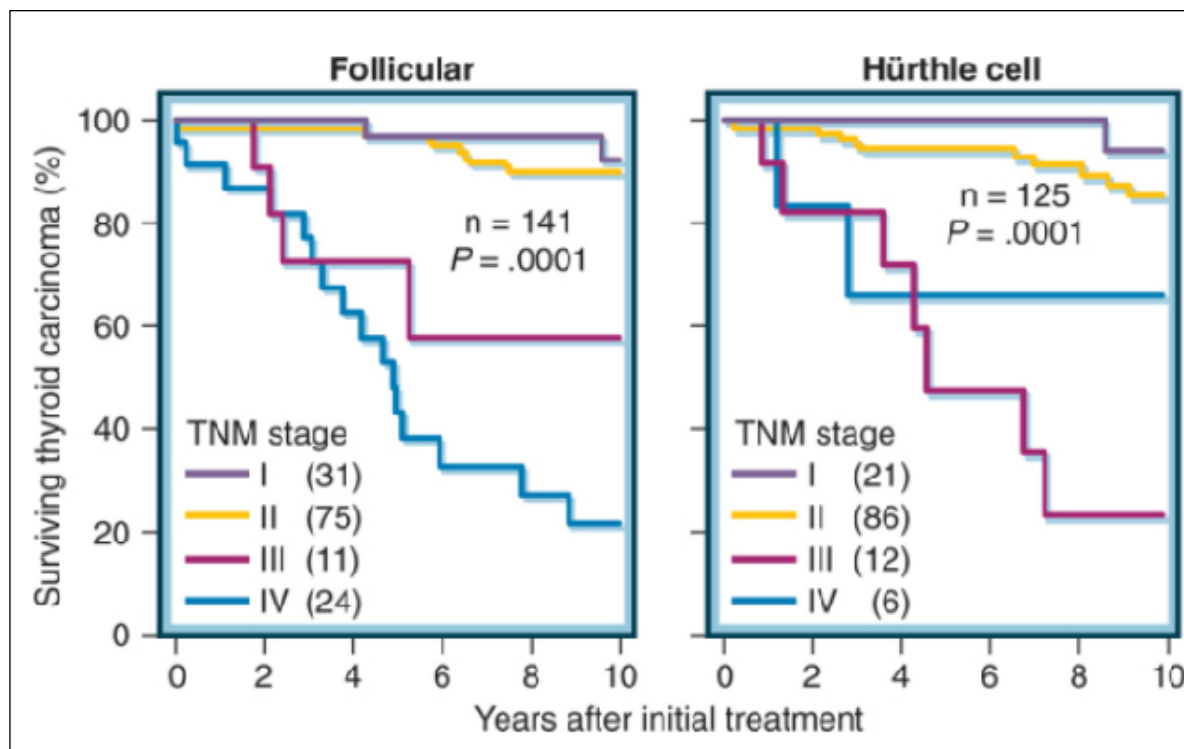
Lowest in papillary thyroid cancer



Post-operative recurrence in the first 20 years after complete tumour resection in patients with no evidence of distant metastases at presentation (including median age at diagnosis for each tumour subtype). Mayo Clinic series.

Follicular thyroid cancer

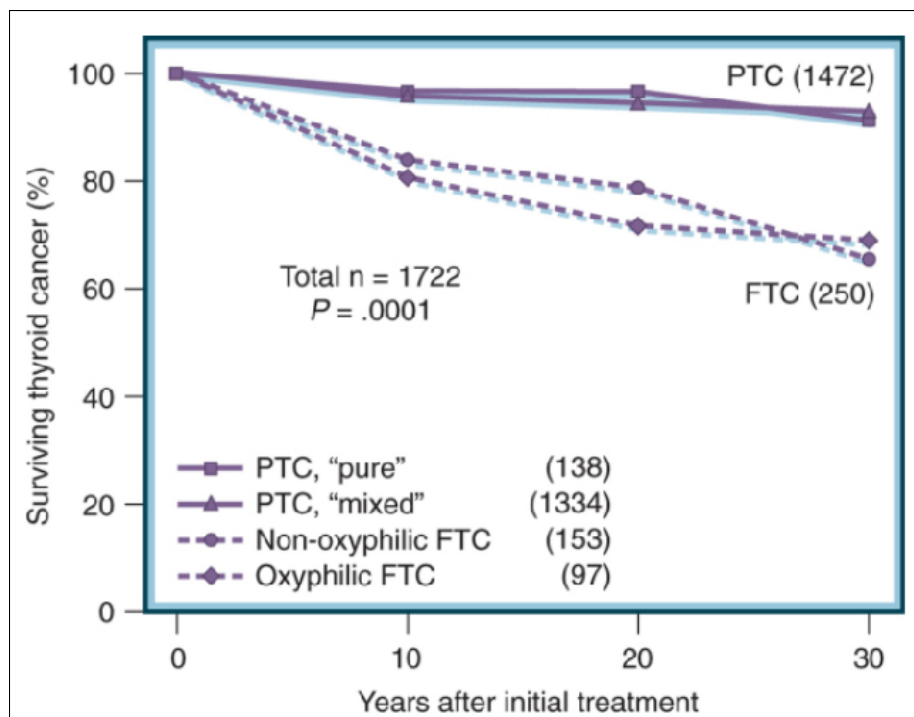
10 year survival by stage at diagnosis



Cause-specific survival according to pTNM stage . Mayo clinic series 1940—1997.

30 year survival

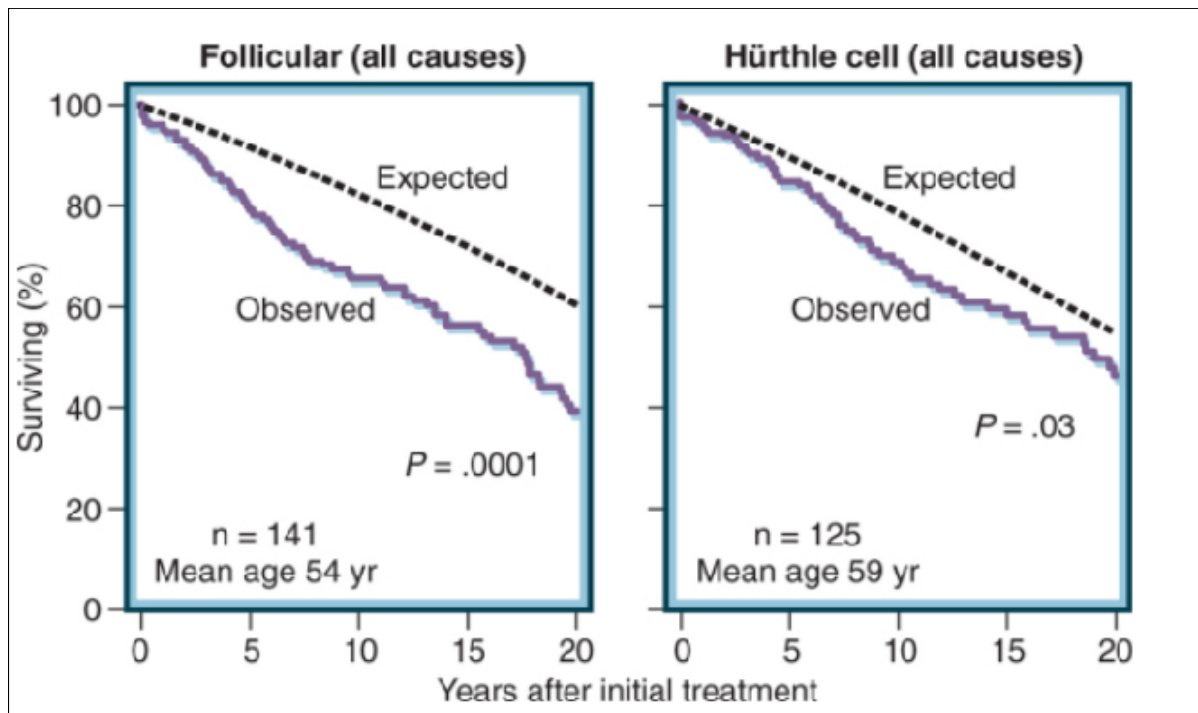
Comparing pure PTC and follicular PTC



Comparison of survival in pure papillary versus papillary with follicular elements and Non-oxyphilic and oxyphilic FTC. Mayo clinic series 1940—1997.

Follicular thyroid cancer

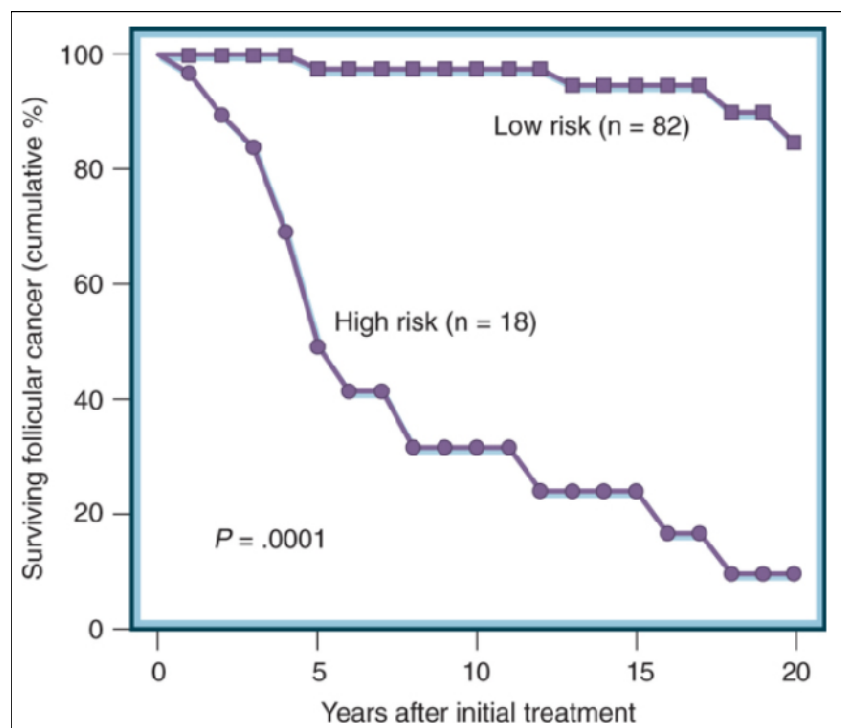
20 year survival



Survival to death from all causes in 141 patients with FTC and 125 patients with HCC. Mayo clinic series 1940—1997. Also plotted is the expected survival (all causes) of persons of the same age and sex and with the same date of treatment but living under mortality conditions of the northwest central United States.

Follicular thyroid cancer

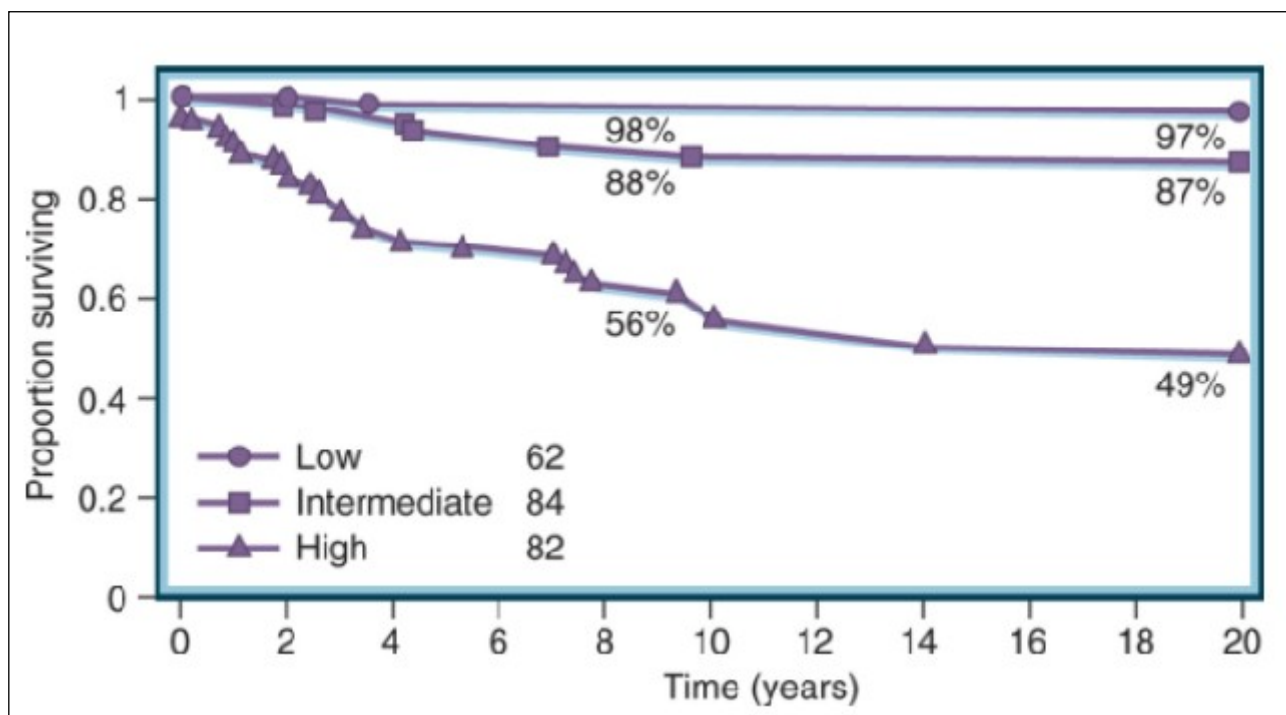
20 year survival by risk group



Cumulative cause-specific survival among 100 patients with non-oxyphilic FTC. High risk = 2 or more of: age >50, marked vascular invasion and metastatic disease at diagnosis. Mayo clinic 1946—1970.

20 year survival in follicular cancer

By risk group



Survival difference in low, intermediate and high risk FTC. Memorial Sloan Kettering Center 1930—1985.