KNÖL I TYREOIDEA

Joakim Hennings

Område Kirurgi, Östersunds sjukhus

Institutionen för diagnostik och intervention/Kirurgi, Umeå universitet

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- **Gemensamma patienter**
- **Handläggning**
- **Vad händer på ”kirurgsidan”?**
- **Framtidsaspekter**

- ”Quis tumidum guttur miratur in Alpibus?”

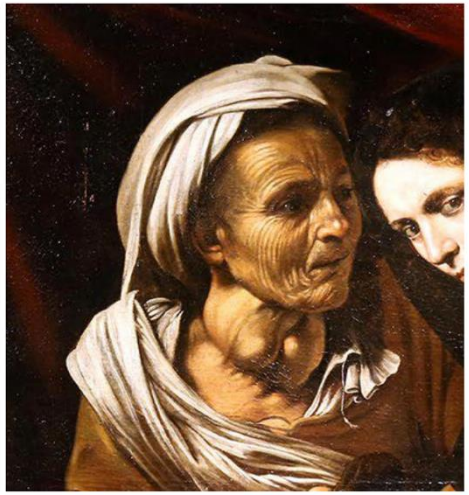
/Juvenalis 60-130 eKr

Struma i konsten…

APMB - Vol. 110(2) 2022

Fig. 8. a) Lucretia, b) and c) Judith: two heroines depicted by Artemisia Gentileschi (21,22)

Fig. 7. Old woman with huge multinodular goiter by Caravaggio (20)



TYREOIDEAKIRURGINS HISTORIA

ABU AL- QASIM 952 F KR

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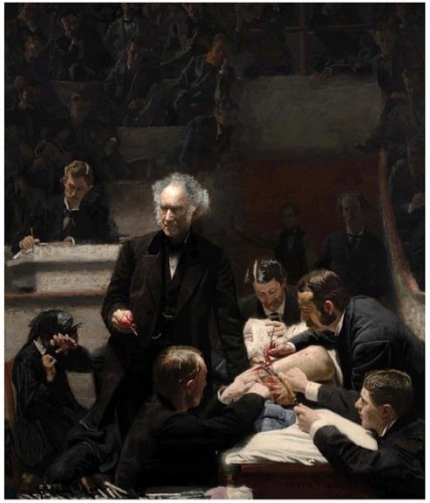
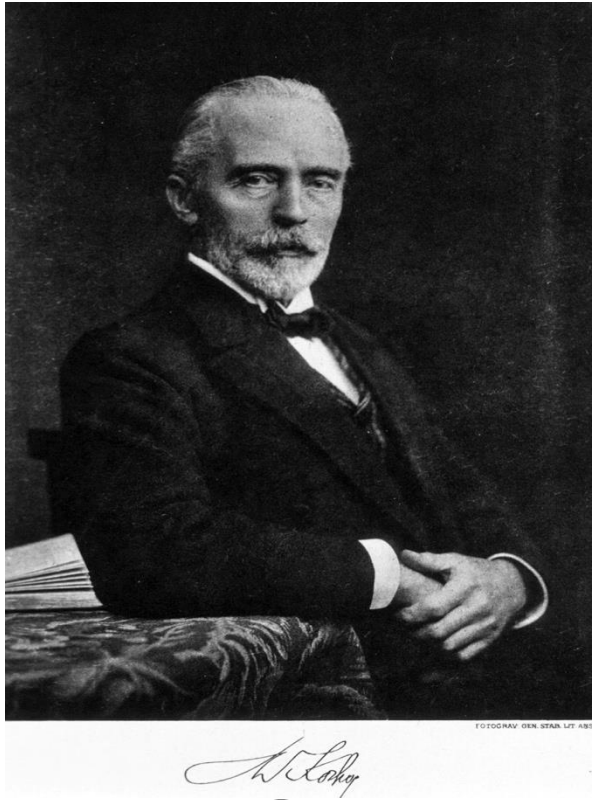
Samuel Gross, 1866



Thomas Eakins, 'The Gross Clinic', 1875

- "No sensible man will… attempt to extirpate a goitrous thyroid gland. Every step he takes will be envisioned with difficulty, every stroke of his knife will be followed by a torrent of blood and lucky will it be for him if his victim lives long enough to enable him to finish his horrid butchery."



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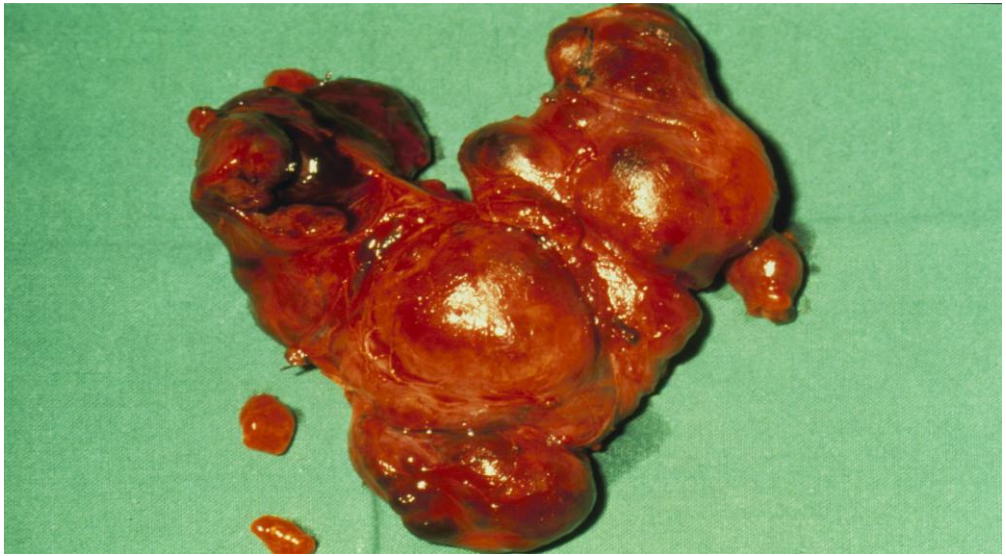
- Resistenser i tyreoidea är mycket vanliga

  (5-10% av populationen & ökande frekvens med åldern)
- Hereditet/Geografi, jodbrist
- Bara ca 5% är maligna.

Follikelnodös tyreoideasjukdom



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TYREOIDEACANCER

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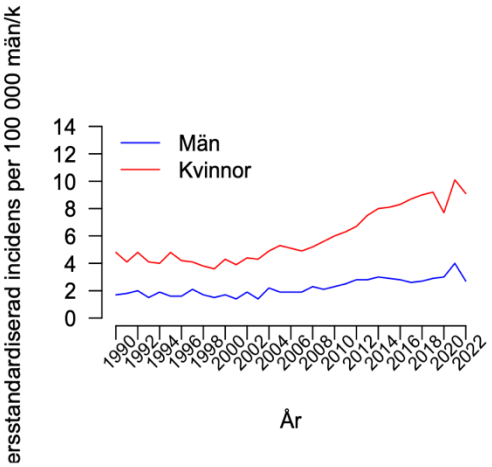
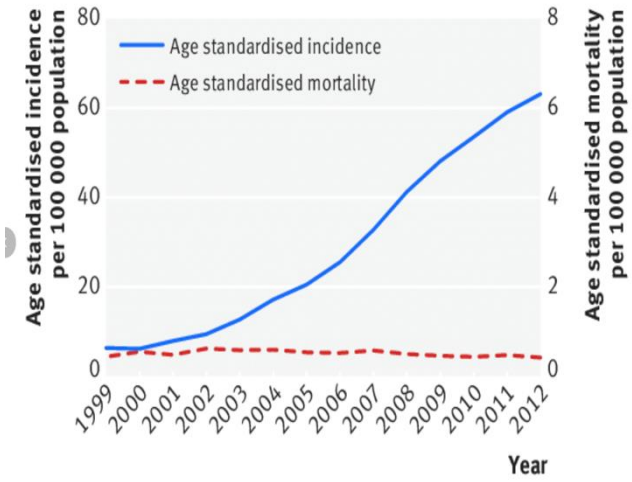
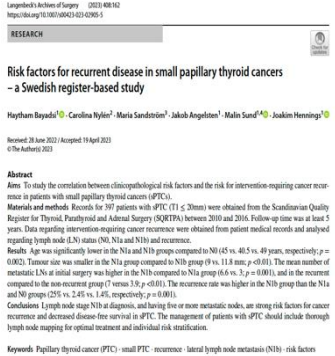
Figur 1. Åldersstandardiserad incidens för tyreoideacancer per 100 000 män och kvinnor i Sverige. Till varje punkt anges antalet nyanmälda fall. Referenspopulation: Europa. Källa: NORDCAN, 2022-09-23.





| Trends in incidence of and mortality from thyroid cancer in South Korea, 1999-2012. The age standardised rates use Segi's world standard population



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RESEARCH

Risk factors for recurrent disease in small papillary thyroid cancers – a Swedish register-based study

Haytham Bayadsi[1] · Carolina Nylén[2] · Maria Sandström[3] · Jakob Angelsten[1] · Malin Sund[1,4] · Joakim Hennings[1]

Received: 28 June 2022 / Accepted: 19 April 2023

Abstract

Aims To study the correlation between clinicopathological risk factors and the risk for intervention-requiring cancer recurrence in patients with small papillary thyroid cancers (sPTCs).

Materials and methods Records for 397 patients with sPTC (T1 ≤ 20mm) were obtained from the Scandinavian Quality Register for Thyroid, Parathyroid and Adrenal Surgery (SQRTPA) between 2010 and 2016. Follow-up time was at least 5 years. Data regarding intervention-requiring cancer recurrence were obtained from patient medical records and analysed regarding lymph node (LN) status (N0, N1a and N1b) and recurrence.

Results Age was significantly lower in the N1a and N1b groups compared to N0 (45 vs. 40.5 vs. 49 years, respectively; $p = 0.002$). Tumour size was smaller in the N1a group compared to N1b group (9 vs. 11.8 mm; $p < 0.01$). The mean number of metastatic LNs at initial surgery was higher in the N1b compared to N1a group (6.6 vs. 3; $p = 0.001$), and in the recurrent compared to the non-recurrent group (7 versus 3.9; $p < 0.01$). The recurrence rate was higher in the N1b group than the N1a and N0 groups (25% vs. 2.4% vs. 1.4%, respectively; $p = 0.001$).

Conclusions Lymph node stage N1b at diagnosis, and having five or more metastatic nodes, are strong risk factors for cancer recurrence and decreased disease-free survival in sPTC. The management of patients with sPTC should include thorough lymph node mapping for optimal treatment and individual risk stratification.

Keywords Papillary thyroid cancer (PTC) · small PTC · recurrence · lateral lymph node metastasis (N1b) · risk factors

World J Surg (2020) 44:461–468
https://doi.org/10.1007/s00268-019-05312-4

ORIGINAL SCIENTIFIC REPORT

Invasiveness and Metastatic Aggressiveness in Small Differentiated Thyroid Cancers: Demography of Small Papillary Thyroid Carcinomas in the Swedish Population

Haytham Bayadsi[1] · Martin Bergman[1] · Malin Sund[1] · Joakim Hennings[1]

Published online: 13 December 2019

Abstract

Background The western world is seeing a rising incidence of thyroid cancer. Improved diagnostic methods do not entirely explain this increase. Papillary thyroid carcinoma (PTC) is the most common subtype of thyroid cancer. Small PTC (≤20 mm) and especially papillary thyroid microcarcinomas (PTMC ≤10 mm) are considered to be low-risk tumors but some cases are considerably more aggressive. Sufficient understanding of these mechanisms is a long-term goal for more efficient and safer treatment of these tumors.

Methods We identified 959 cases of small PTCs in the validated Scandinavian Quality Register for Thyroid, Parathyroid and Adrenal Surgery, grouped according to lymph node metastasis. These were analyzed according to age, gender, tumor size and geographic region.

Results Patients with N1b disease (lateral lymph nodes metastases) had a smaller tumor size compared to patients with N1a disease (8.6 mm vs. 10.1 mm respectively, $p < 0.05$). Patients and specifically females with N1b disease were younger than those with N0 or N1a disease. Patients with N1b disease had a lower proportion of females (69%) compared to N0 and N1a groups (81% and 78%, respectively). The incidence of operated small PTCs and of lymph node engagement differs between geographic regions in Sweden.

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Tyreoideaneoplasier: klassificering

1. Follikelceller *(DTC)*
2. C-celler (1-2% av parenkymet)

(*sällsynt lymfom eller metastaser*)

Malignitetssuspekta knölar

- Exponering för radioaktiv strålning (ffa barn, ungdomar)
- Ärftlighet för tyreoideacancer
- < 20 eller > 60 år
- Manligt kön
- Växande knöl, hård, oregelbunden, fixerad. Förstorade lymfkörtlar

…TYREOIDEACANCER

- **PTC 80%**
- **FTC/OTC 10%**
- **MTC 5%**

Prognos

5-årsöverlevnad

- Papillär cancer 95%
- Follikulär cancer 75-80%
- Medullär cancer 70%
- Anaplastisk cancer < 5%

Utredning av en *malignitetsmisstänkt eller symtomgivande* tyreoideaknöl

(& PET-om…)

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Klinisk undersökning av tyreoidea

- Inspektion
- Palpation

(LAB), *HYPERTYREOS*

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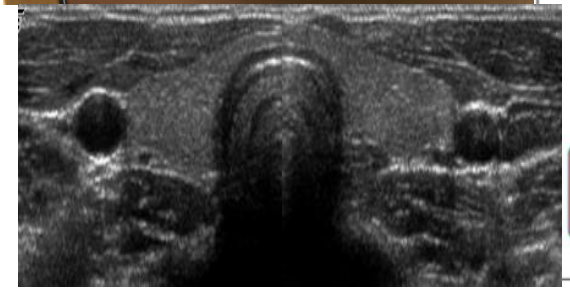
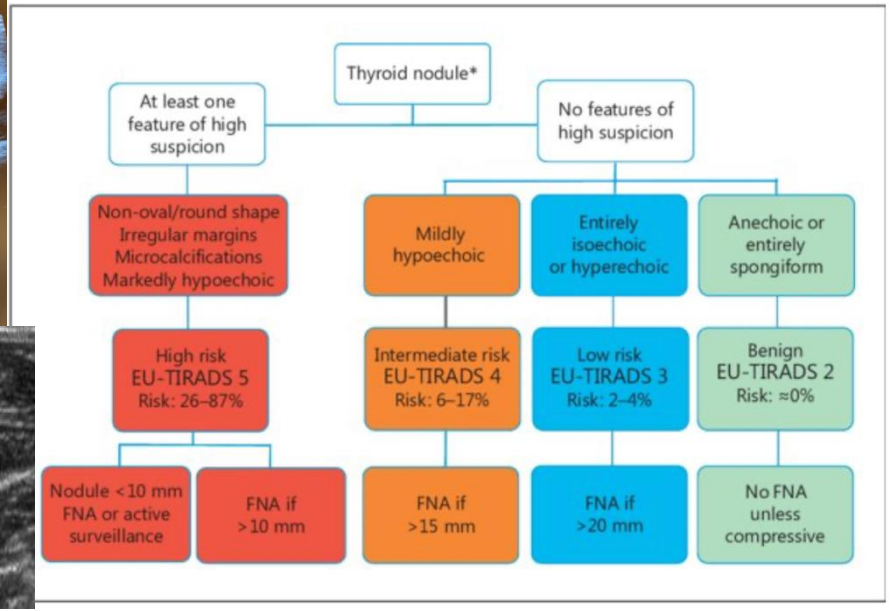
Ultraljud

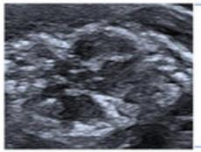
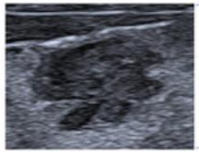
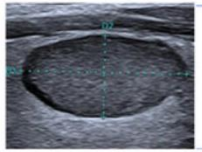
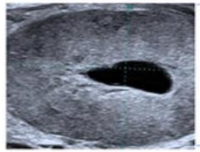
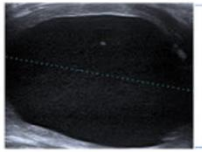
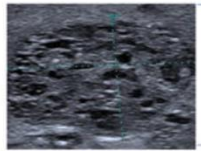
- Bra metod för att bedöma tyreoidea & lymfkörtlar och vägleda en ev punktion

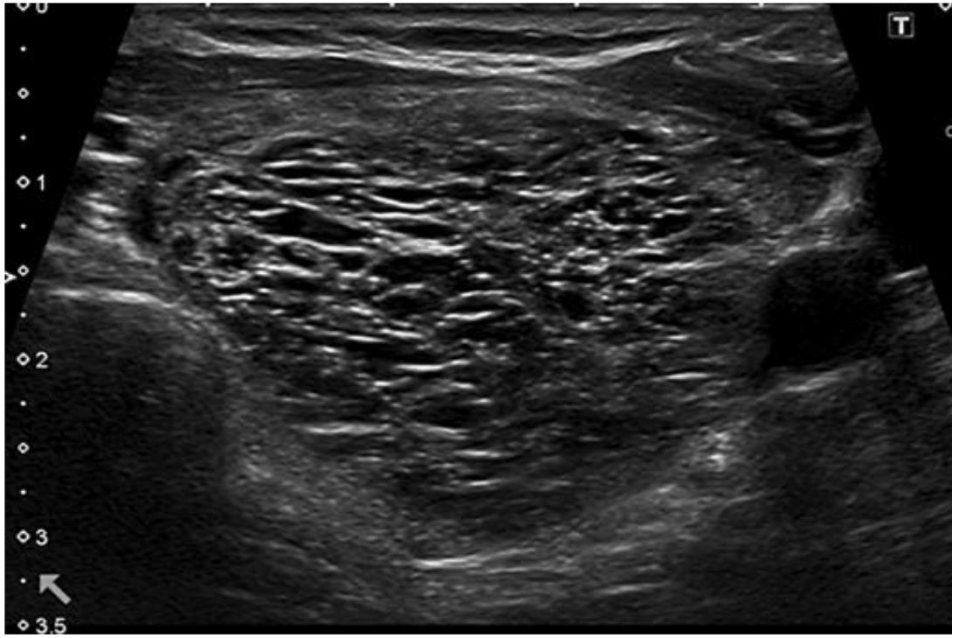
ULTRALJUD

EU-TIRADS, KLASSIFICERING

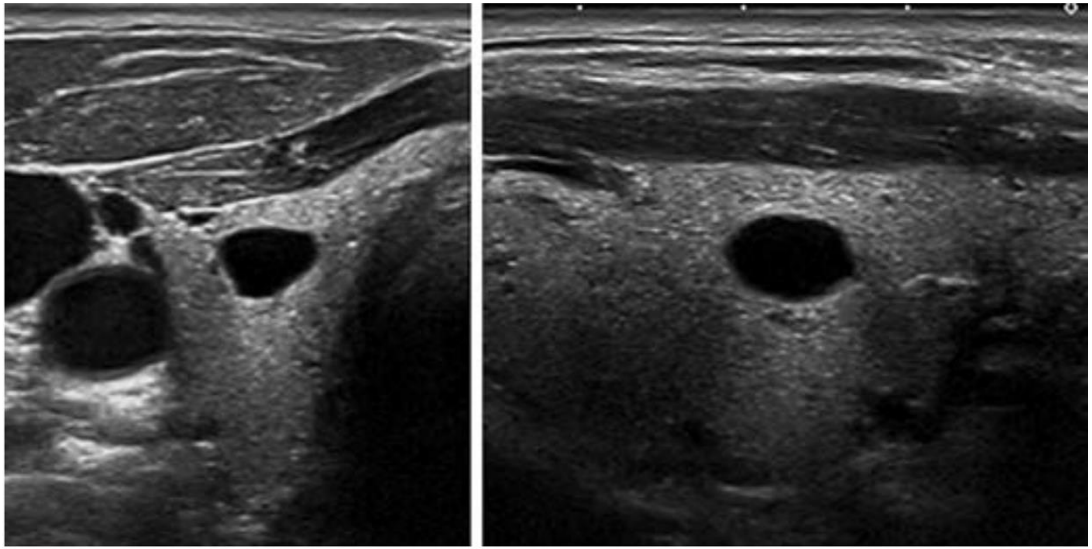




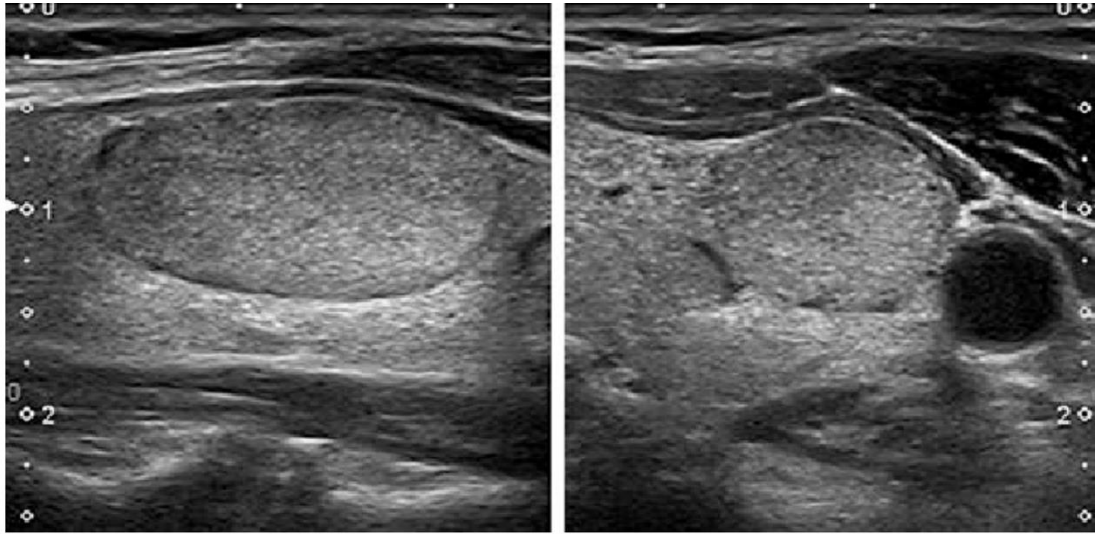
	Presence of at least one feature of high suspicion		**EU-TIRADS 5** Risk : 26-87% 5% of all nodules
	No feature of high suspicion and mildly hypoechoic		**EU-TIRADS 4** Risk : 6-17% 27% of all nodules
	No feature of high suspicion and isoechoic		**EU-TIRADS 3** Risk : 2-4% 63% of all nodules
	No feature of high suspicion and anechoic or spongiform		**EU-TIRADS 2** Risk ≈ 0% 5% of all nodules



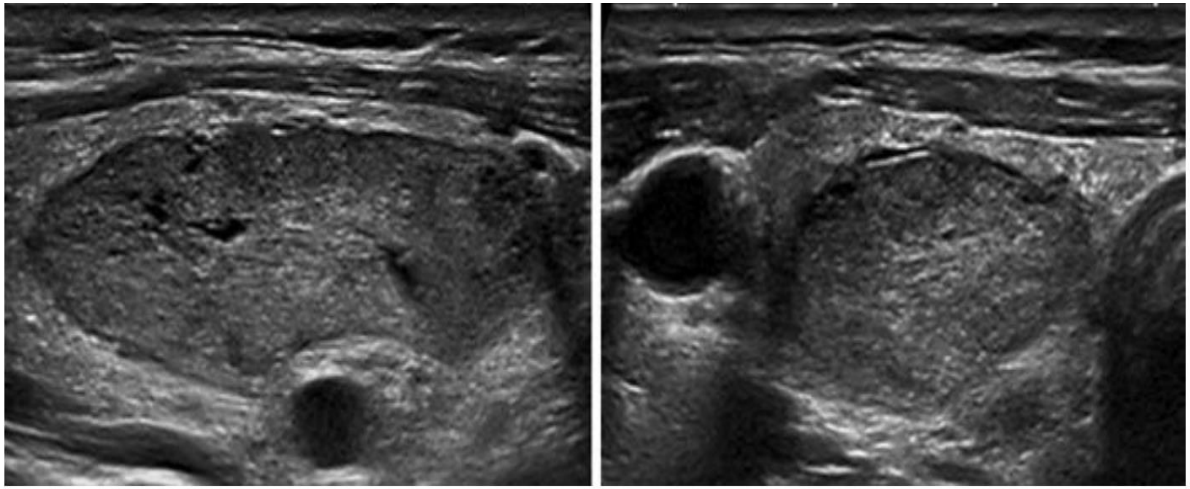
EU-TIRADS 2: spongiform nodule. Transverse plane.



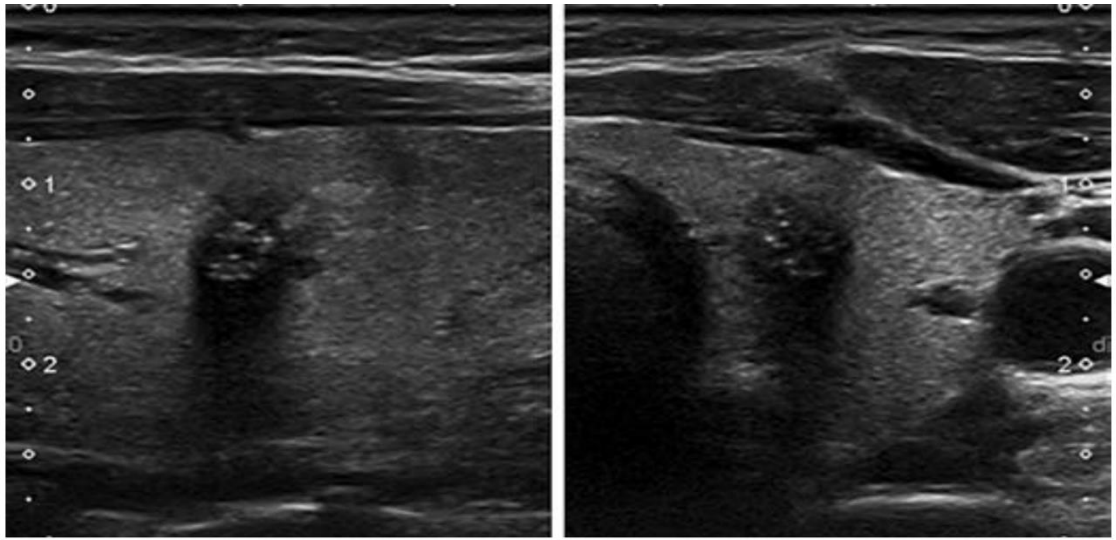
EU-TIRADS 2: pure/anechoic cyst. Transverse (left) and longitudinal (right) planes.



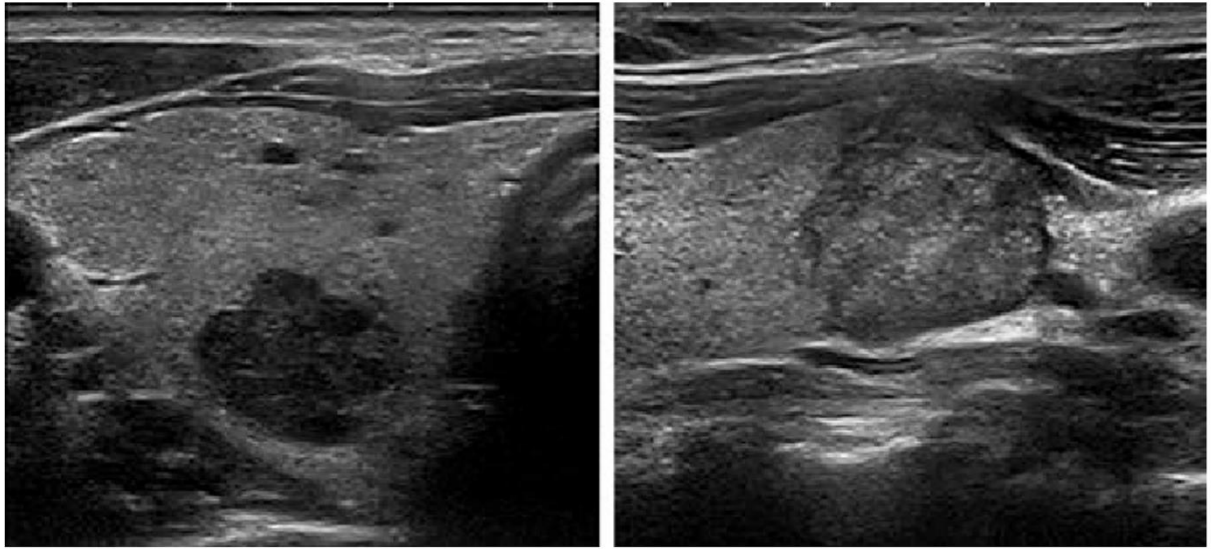
EU-TIRADS 3: low-risk isoechoic nodule with an oval shape and smooth margins without any high-risk features. Longitudinal (left) and transverse (right) planes.



EU-TIRADS 4: intermediate-risk, mildly hypoechoic nodule with an oval shape and smooth margins without any high-risk features. Longitudinal (left) and transverse (right) planes.

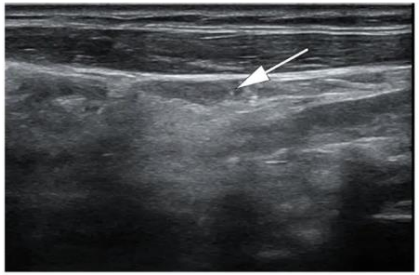


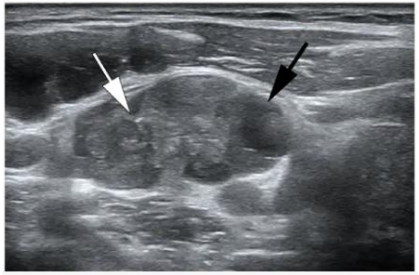
EU-TIRADS 5: high-risk nodule with a non-oval shape, spiculated margins, microcalcifications, and marked hypoechogenicity. Longitudinal (left) and transverse (right) planes.



EU-TIRADS 5: two different examples of high-risk hypoechoic nodules with lobulated margins in the transverse (left picture) and longitudinal (right picture) planes.

LYMFKÖRTLAR, ULJ





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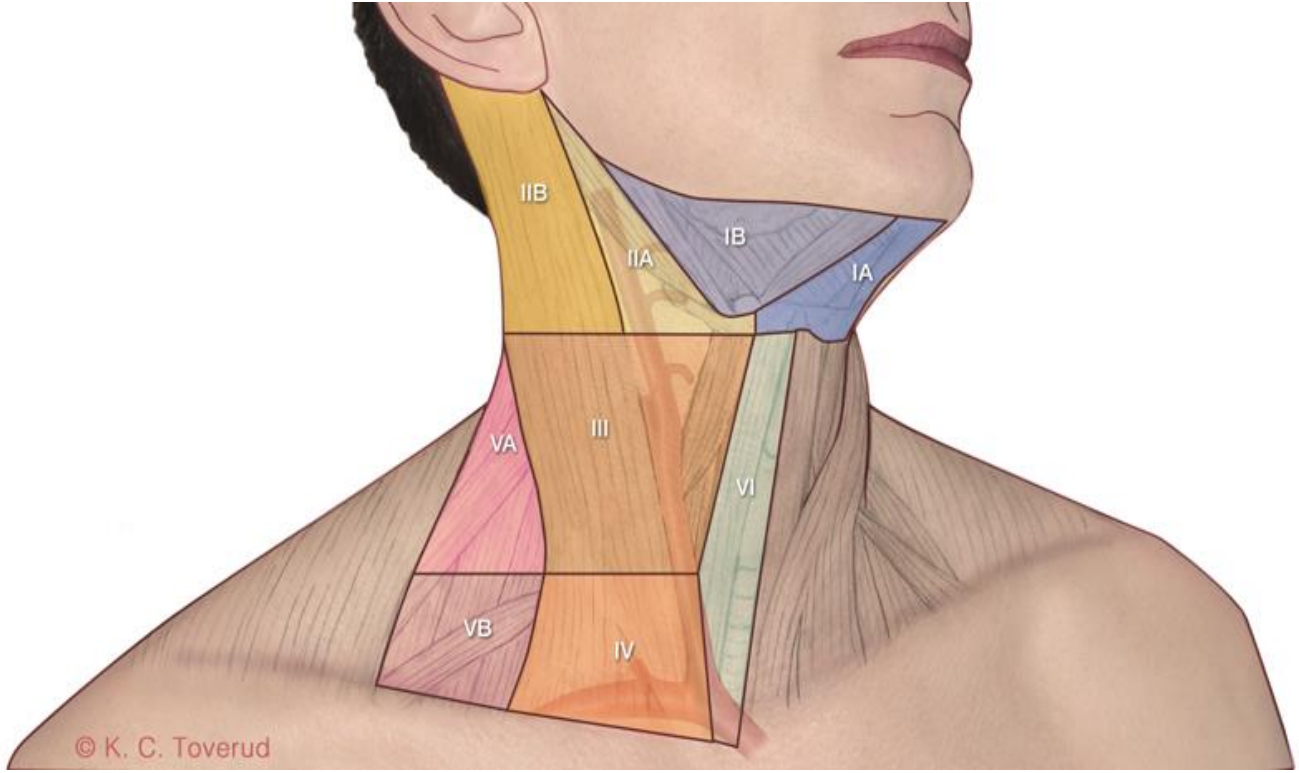

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…FRAMTIDA?

- AI-hjälpmedel?

Finspetscytologi av tyreoidea

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CYTOLOGI, BETHESDAKLASSIFIKATION (I-VI)

Bethesda	Betydelse	Fynd	Malignitetsrisk
I	Inte diagnostisk	Cystvätska, inte bedömbara celler	1-4%
II	Benignt	Godartad follikulär lesion, tyreoidit	0-3%
III	Atypi, follikulär resistens av oklar signifikans		5-15%
IV	Follikulär neoplasi	Follikulär, onkocytär	15-30%
V	Misstänkt malignitet	Misstanke om cancer, lymfom eller metastas	60-75%
VI	Malignitet	Säkerställd cancer (se nedan)	97-99%

CYTOLOGI, BETHESDAKLASSIFIKATION (I-VI)

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….FRAMTIDA?

- Gentestning FNAC? Ex ThyroSeq, Afirma etc
- TERT-promotormutataion? DICER1? m fl

Tilläggsundersökningar – i vissa utvalda fall

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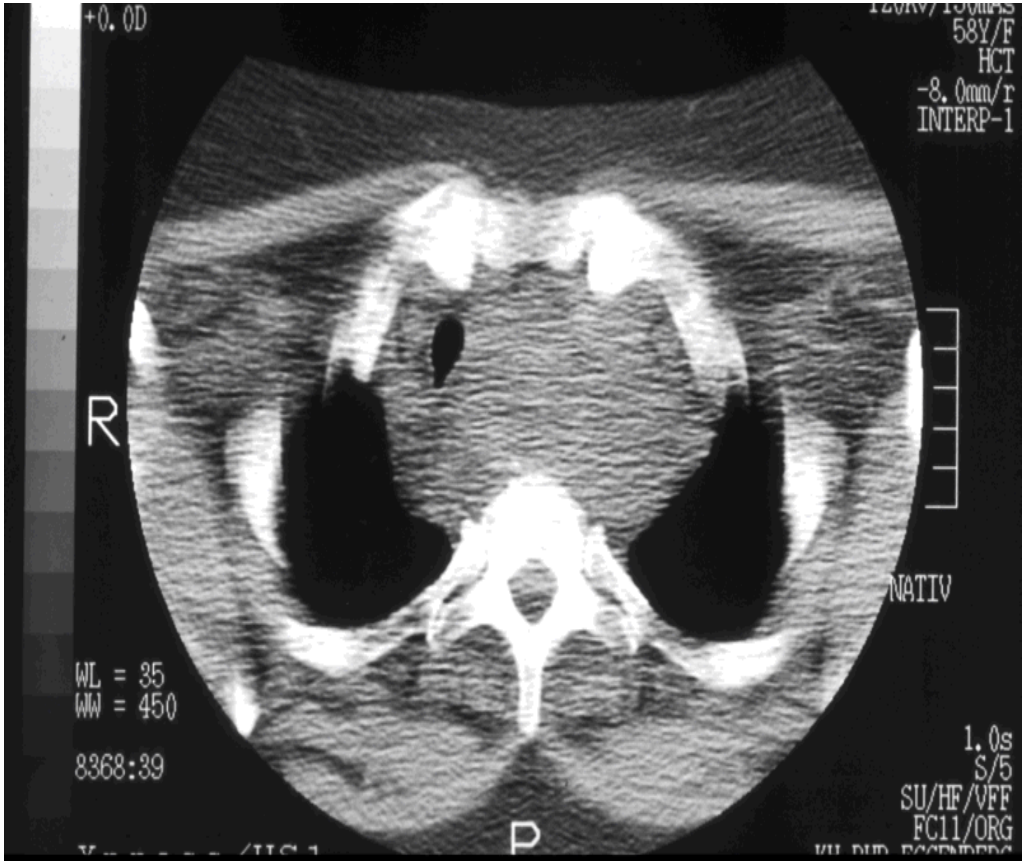
Röntgen

Bedöma intratorakal utbredning (ev överväxt, mets?)

- **CT**
  bra metod för att kartlägga utbredning, relation till omgivande strukturer
  och metastaser.

  OBS *Undvik jodkontrast till tyreoideapat. (överfunktion/ ev radiojodbeh)*

- ***MR*** *(sällan behov)*
  som CT men behöver ej jodkontrastförstärkning



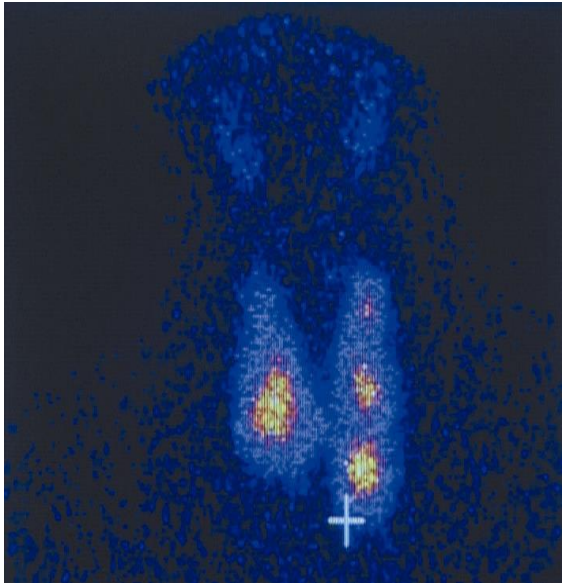
Nuklearmedicinska undersökningar

- ***Tyreoideascintigrafi (^{99m}TC):*** alt ^{131}I inför behandling. Ger en morfologisk och funktionell undersökning av parenkymet

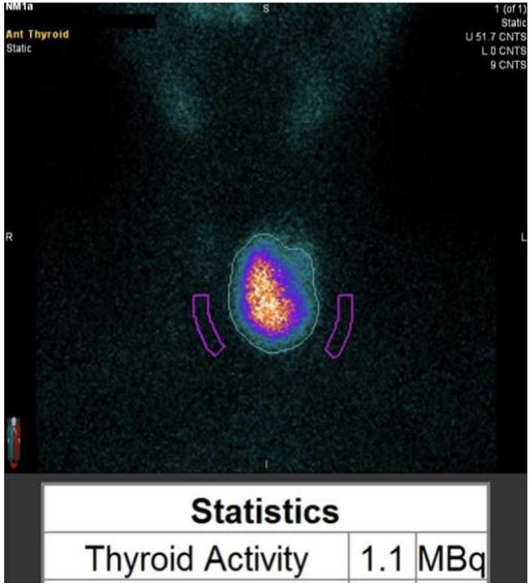
- Scintigrafi är enbart motiverat vid utredning om sänkt TSH

Undersökning, tyreoideascint

SCINTIGRAFI VID ”PLUMMERSTRUMA”



SCINTIGRAFI VID ”TOXISKT ADENOM”



...

- **FDG-PET/CT**
- **^{68}Ga- DOTATOC/DOTATATE-PET/CT**
- **Mellannålsbiopsi - BRAF? (ATC)**

Behandling utifrån:

- **Ultraljud- / Cytologifynd**
- **Lokala trycksymptom**
- **Funktionsrubbning**

Eutyreoid patient med tyreoideaknöl

Benign cytologi/ulj + besvärsfrihet

expektans

Benign cytologi/ulj + trycksymptom

ev kirurgi?

Oklar cytologi (ex Bethesda 3/ Bethesda1 x2 o ej cysta)

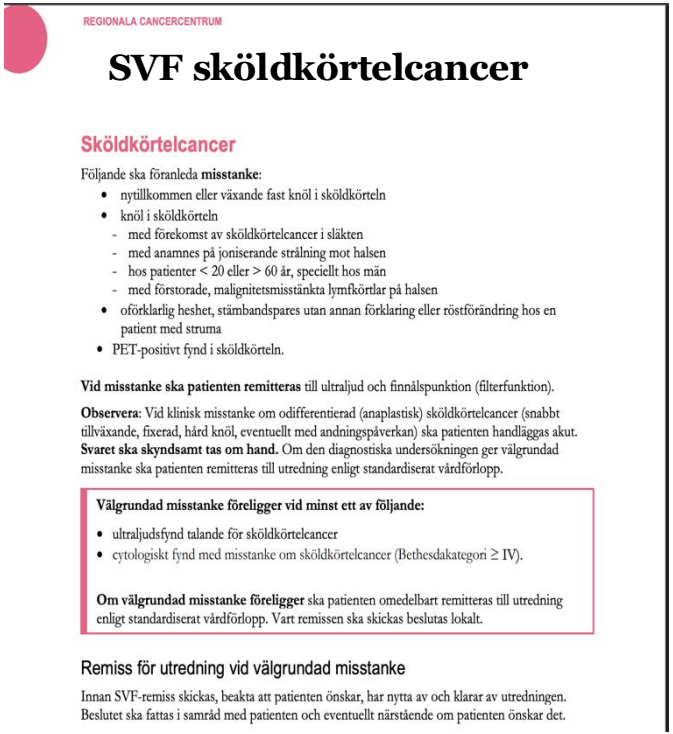
upprepa + remiss till kirurg

Malign cytologi - **kirurgi**

Sköldkörtelcancer

Nationellt vårdprogram

2025-03-04 Version: 3.1



REGIONALA CANCERCENTRUM

SVF sköldkörtelcancer

Sköldkörtelcancer

Följande ska föranleda **misstanke:**

- nytillkommen eller växande fast knöl i sköldkörteln
- knöl i sköldkörteln
  - med förekomst av sköldkörtelcancer i släkten
  - med anamnes på joniserande strålning mot halsen
  - hos patienter < 20 eller > 60 år, speciellt hos män
  - med förstorade, malignitetsmisstänkta lymfkörtlar på halsen
- oförklarlig heshet, stämbandspares utan annan förklaring eller röstförändring hos en patient med struma
- PET-positivt fynd i sköldkörteln.

Vid misstanke ska patienten remitteras till ultraljud och finnålspunktion (filterfunktion).

Observera: Vid klinisk misstanke om odifferentierad (anaplastisk) sköldkörtelcancer (snabbt tillväxande, fixerad, hård knöl, eventuellt med andningspåverkan) ska patienten handläggas akut. **Svaret ska skyndsamt tas om hand.** Om den diagnostiska undersökningen ger välgrundad misstanke ska patienten remitteras till utredning enligt standardiserat vårdförlopp.

Välgrundad misstanke föreligger vid minst ett av följande:

- ultraljudsfynd talande för sköldkörtelcancer
- cytologiskt fynd med misstanke om sköldkörtelcancer (Bethesdakategori ≥ IV).

Om välgrundad misstanke föreligger ska patienten omedelbart remitteras till utredning enligt standardiserat vårdförlopp. Vart remissen ska skickas beslutas lokalt.

Remiss för utredning vid välgrundad misstanke

Innan SVF-remiss skickas, beakta att patienten önskar, har nytta av och klarar av utredningen. Beslutet ska fattas i samråd med patienten och eventuellt närstående om patienten önskar det.

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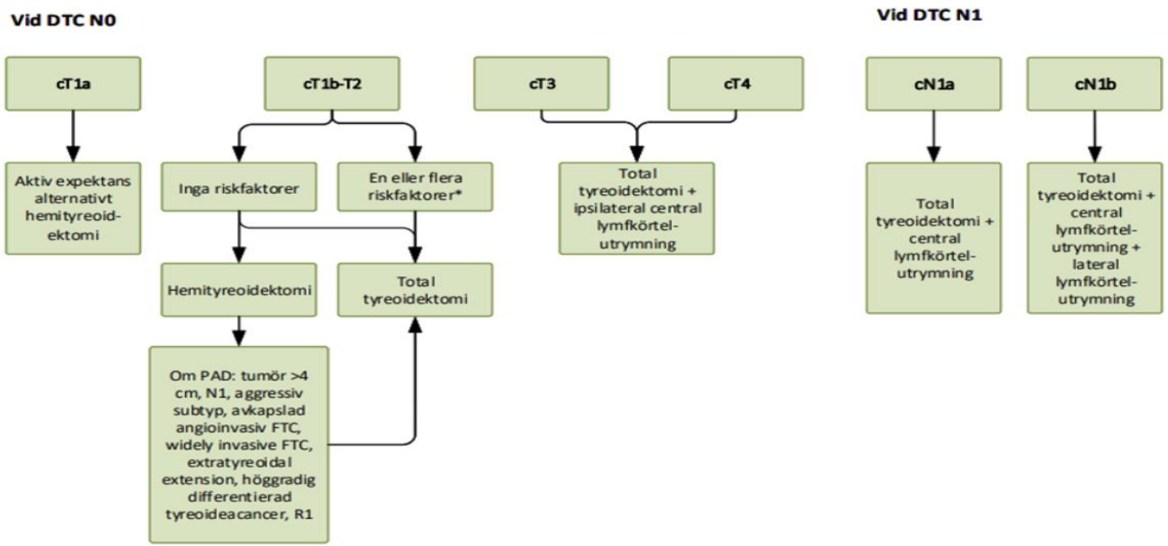
Behandling **DTC (PTC/FTC/OTC)**

- Individualiseras utifrån tumördata (storlek, histologiskt aggressivitetsmönster mm, låg-, intermediär- & högrisk)

- Tyreoidektomi el hemityreoidektomi
- Central lgll-utrymning +/-
- Lateral lgll-utrymning +/-
- *(Ev resektion av engagerade omgivande strukturer om nödvändigt)?*

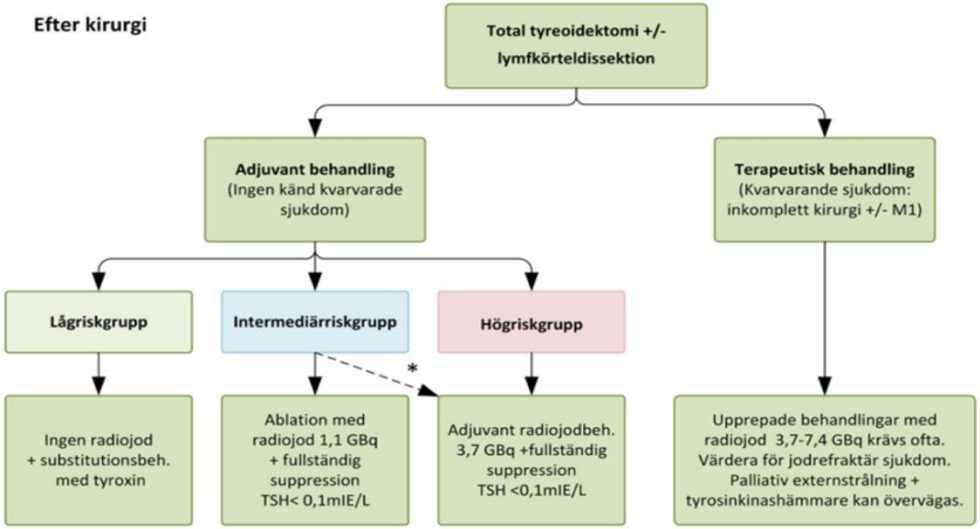
KIRURGI DTC

Rekommendationer för kirurgi för DTC



*strålningsanamnes, hereditet för tyreoideacancer, tecken till extratyreoidealväxt, suspekta förändringar i kontralaterala loben, fjärrmetastasering, cytologisk misstanke på aggressiv tumörtyp. Även patientönskemål kan vägas in.

RADIOJODBEHANDLING



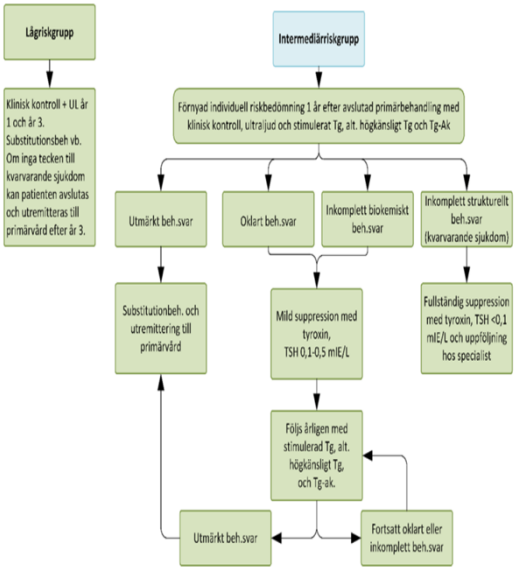
* vid aggressiv histologi kan initial radiojodbehandling med högre aktiviteter rekommenderas, se tabell Riskstratifiering av differentierad tyreoideacancer

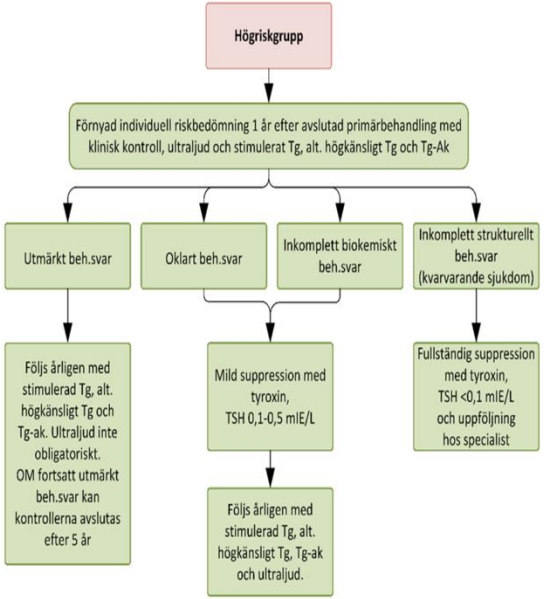
TSH-suppressionsbehandling

- TSH kan stimulera tillväxt av ev kvarvarande cancerceller
- Lågt TSH = lägre recidivrisk *vs* bieffekter (hjärta, skelett)
- Mål: suppression – substitution, **individualisering utifrån tumördata; låg-, intermediär- & högrisk.**

Vara kliniskt eutyreoid

UPPFÖLJNING DTC, INTERMEDIÄR- & HÖGRISK





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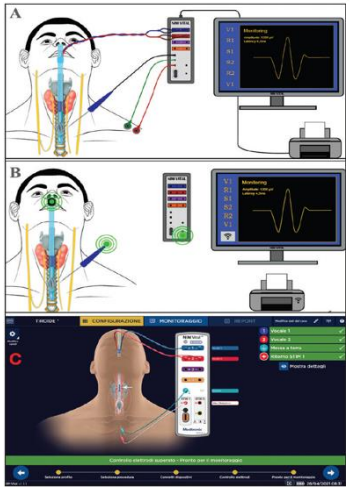

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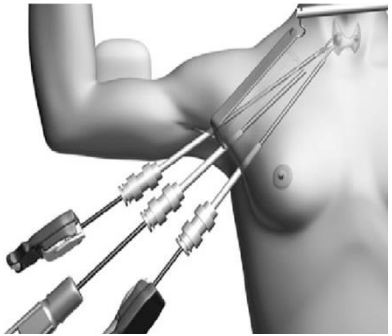
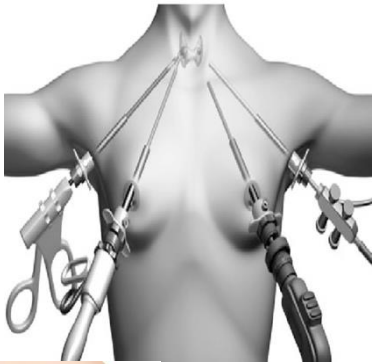
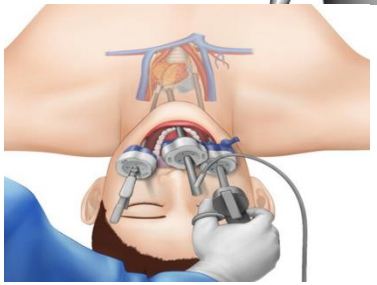
INTERNATIONELLT







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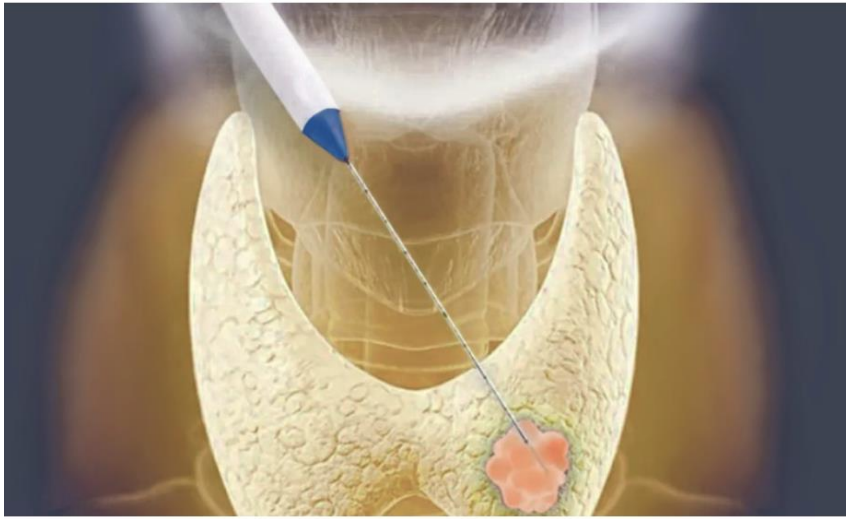
Ablationsbehandling



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…NY TEKNIK

- Indikationer?
- Utförare?
- Uppföljning/Dokumentation/Studier?
- Register! (SQRTPA)

IN THE WORLD OF SURGICAL ONCOLOGY

- Tumor Biology is **King**
- Selection is **Queen**
- Technical Maneuvers are the **Prince and Princess**

- *Occasionally the Prince and Princess try to usurp the throne, sometimes with temporary apparent victories, usually to no long term avail; they almost always fail to overcome the powerful forces of the King and Queen.*

//Cady, "Basic Principles in Surgical Oncology"; ArchSurg 1997

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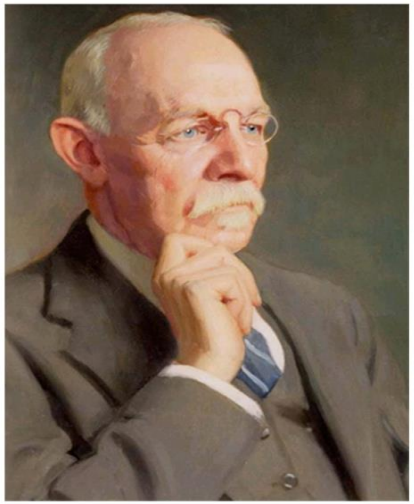
Halsted's perspective - 1920



William Halsted, MD (1852-1922)

- "The extirpation of the thyroid gland typifies, perhaps better than any other operation, the supreme triumph of the surgeon's art..."

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