# Desmitificando la radioterapia en Hodgkin localizado

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LYMPHOMA Experience
ABRIL 3·4·5 2025

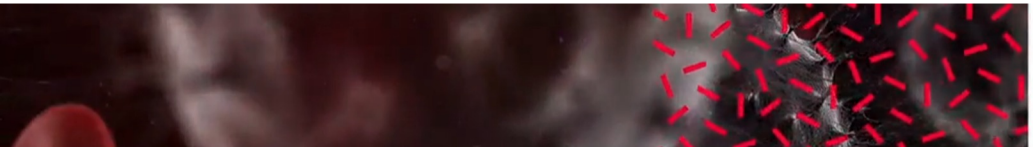
Dra. Claudia Carvajal
Jefe servicio radioterapia
Clínica Alemana de Santiago
ccarvajal@alemana.cl

## Declaración conflictos de interés

No he recibido aportes (financieros ni no financieros) de la industria farmacéutica/nutricional o de dispositivos médicos asociados a esta presentación o sus contenidos.

## Hoja de ruta

- Rol manejo multidisciplinario
- Generalidades radioterapia
  - ¿cómo se planifica y entrega?
  - ¿cómo funciona?
  - mitos
- RT en LH temprano
  - favorable
  - desfavorable
  - recaídas
- Toxicidades



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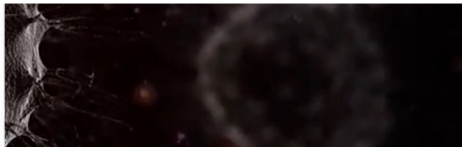
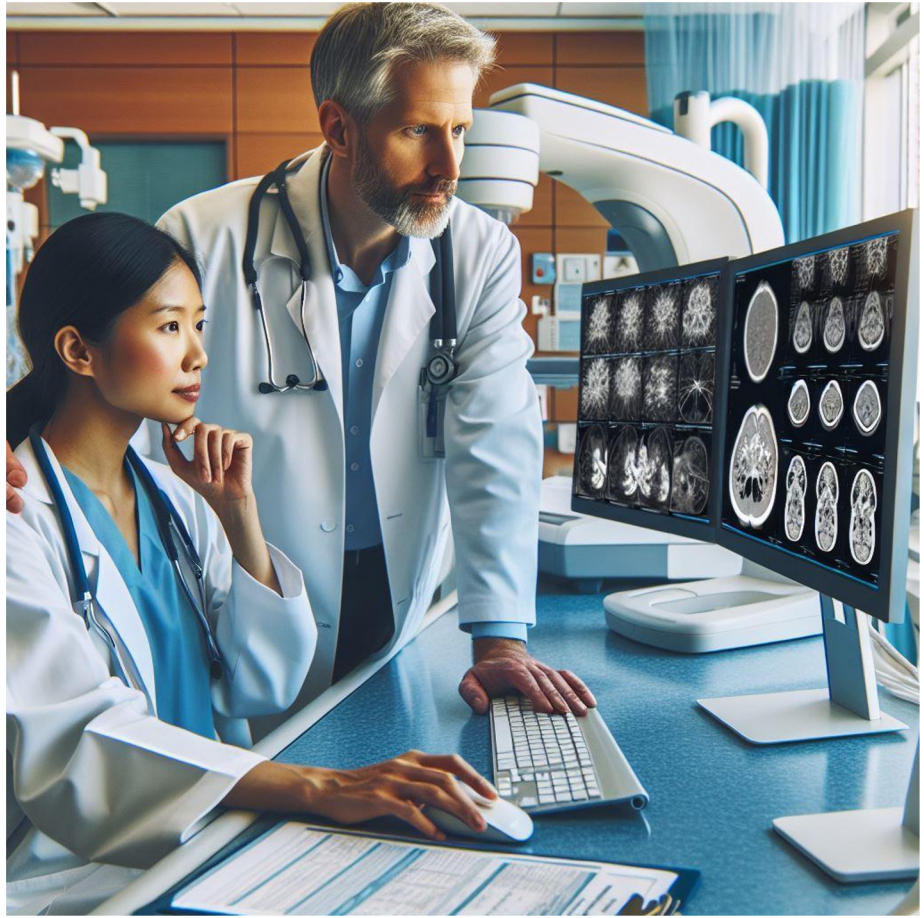
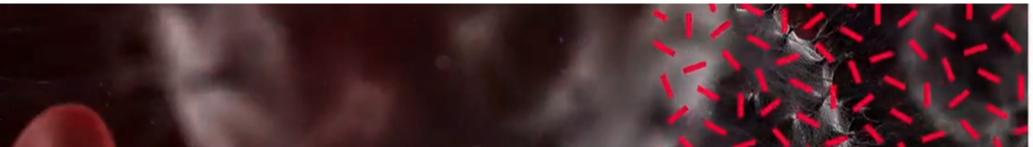


## Cuidado de pacientes con LH

Enfoque multidisciplinario es esencial para:

- personalizar según factores pronósticos
- adaptar según respuesta
- mejorar resultados
- disminuir toxicidad, mejorar QoL
- seguimiento con deteccion y manejo complicaciones y recidivas





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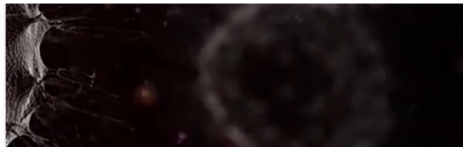
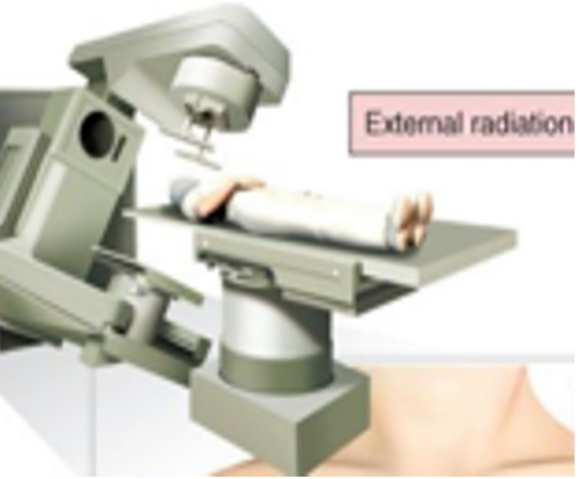
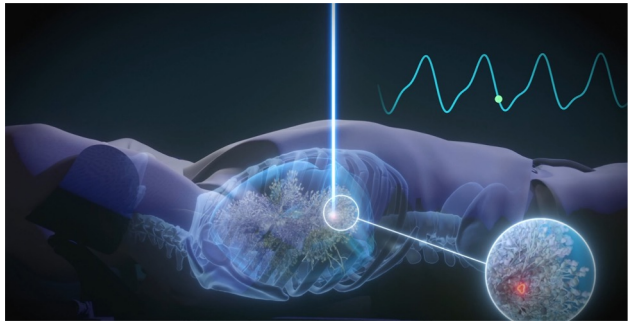
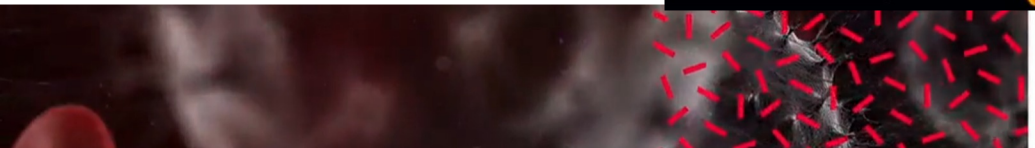


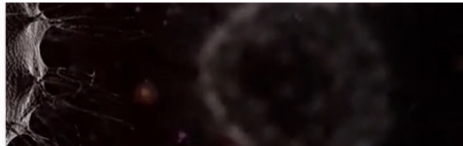
# Introducción a la radioterapia oncológica









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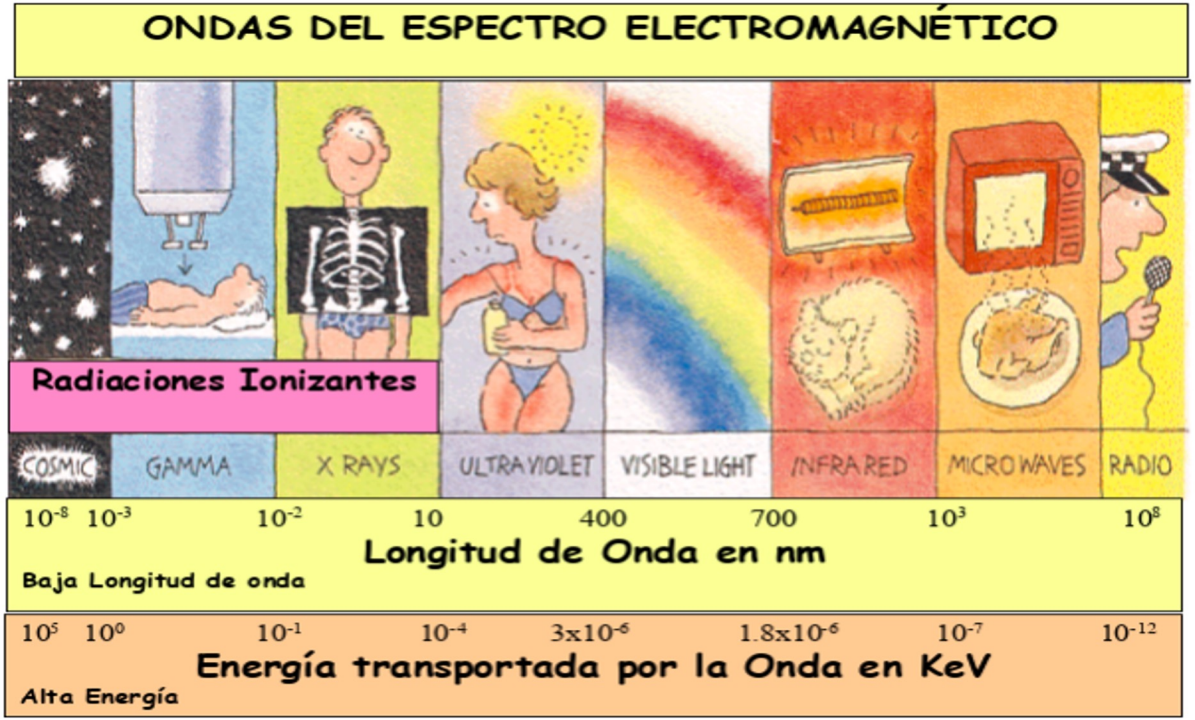


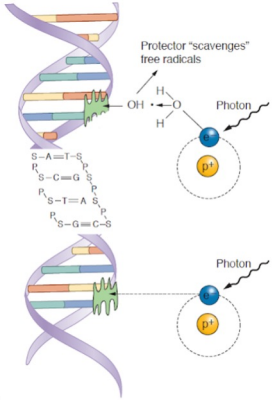


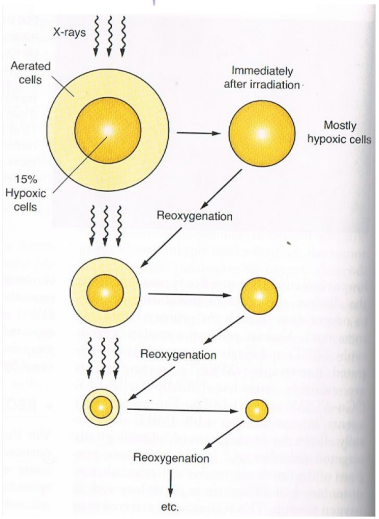


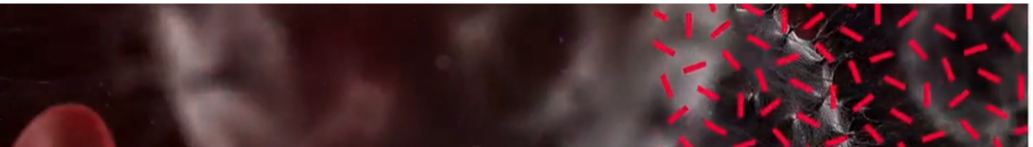

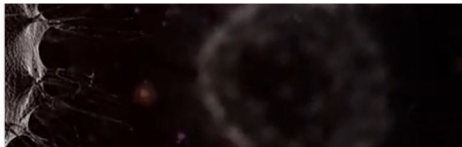

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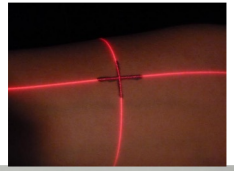

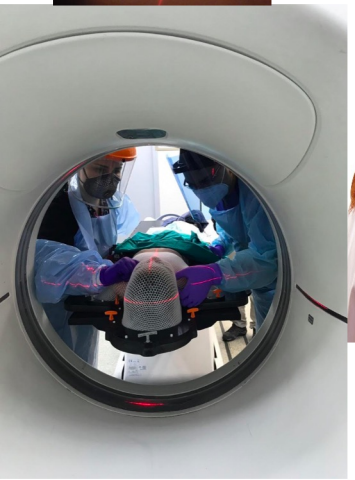

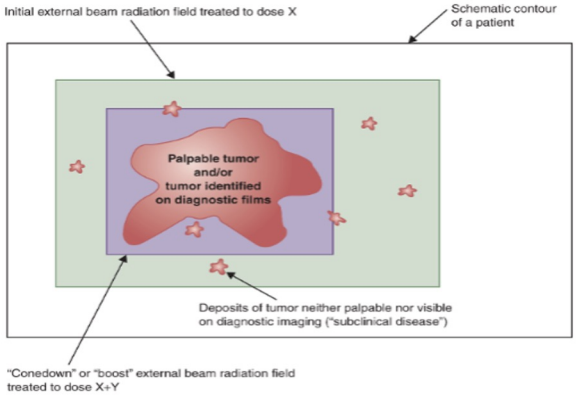


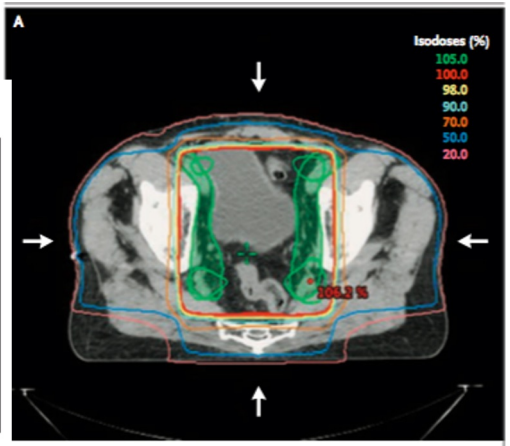


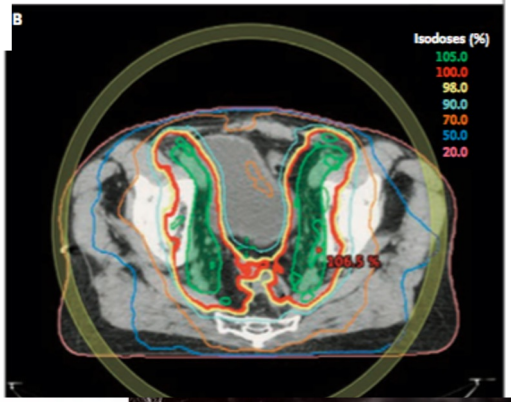



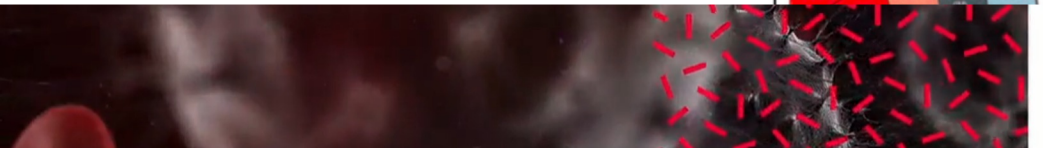

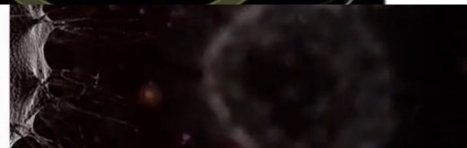

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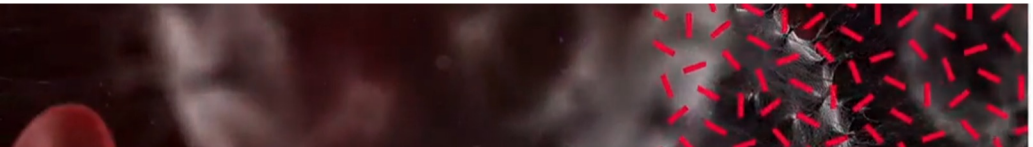
## Introducción a la radioterapia oncológica

En una palabra,

- ¿cuál es el principal mito que te gustaría aclarar respecto al uso de RT en LH etapa temprana?
- ¿cuales son tus principales preocupaciones respecto a la RT en LH etapa temprana?
- ¿qué información faltante te gustaría obtener?

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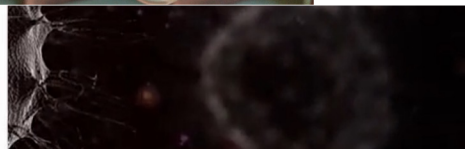
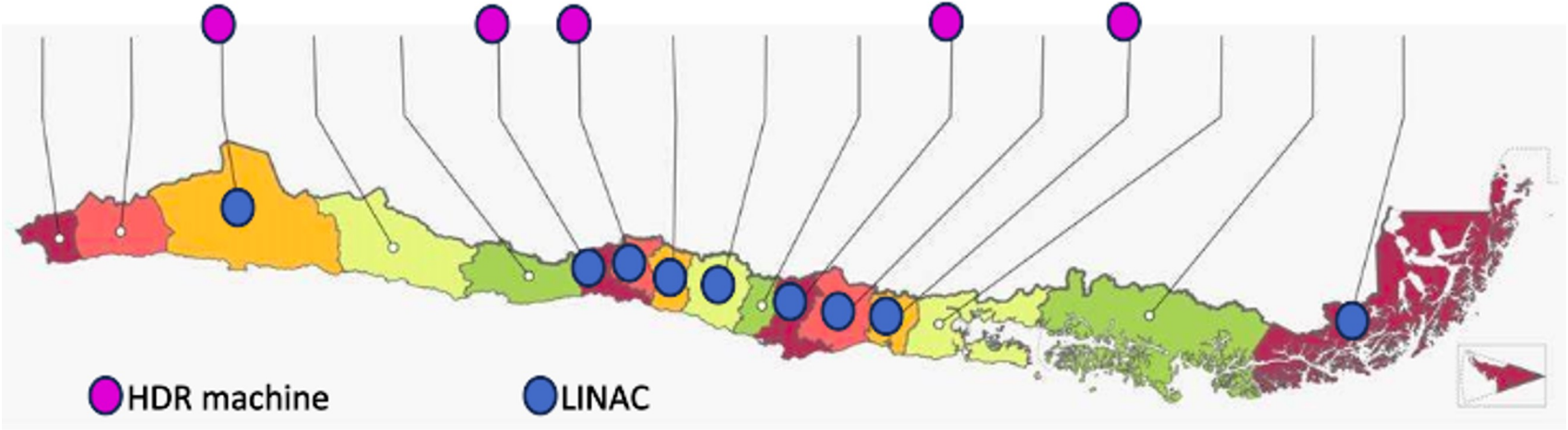


# Introducción a la radioterapia oncológica

Red de radioterapia pública y privada en Chile

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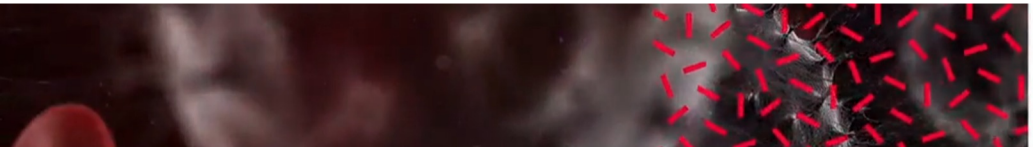
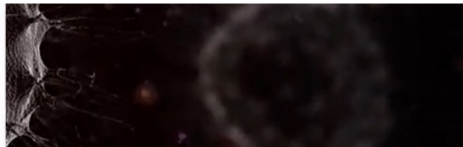
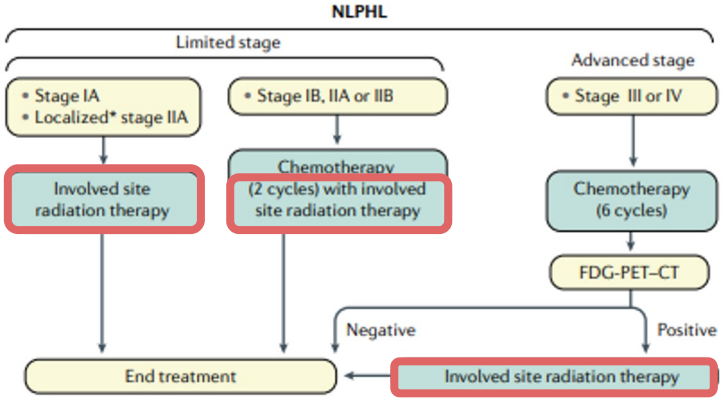


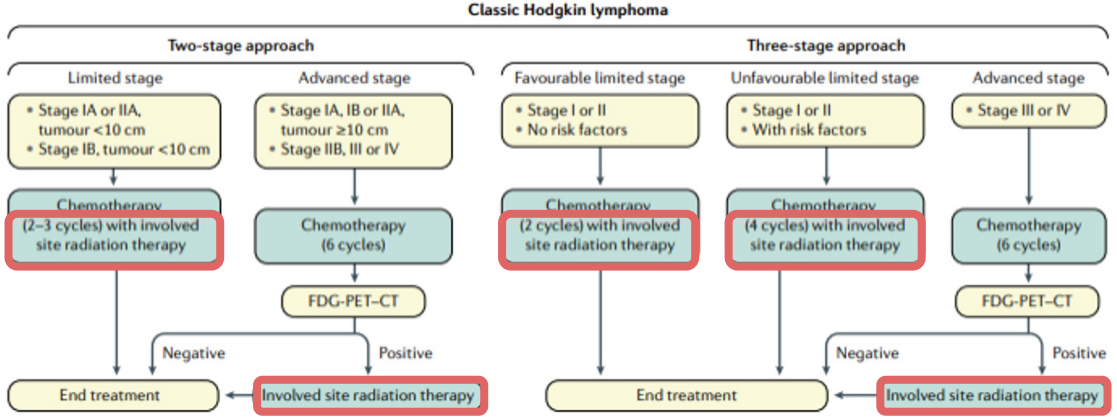


## Objetivos de la radioterapia en el manejo del LH etapa temprana

- Mejorar PFS
- Puede ser el tratamiento:
  - exclusivo (ej. LH no-clásico localizado)
  - de consolidación: enfermedad residual
  - de rescate: recidiva

# ¿Cuándo se recomienda RT en LH etapa temprana?

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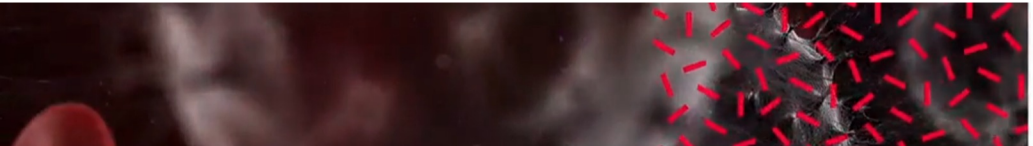

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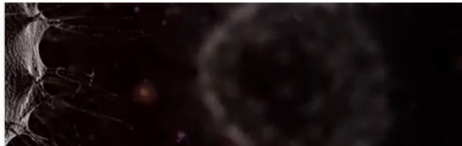


# ¿Cuándo se recomienda RT en LH etapa temprana?

**Unfavorable Risk Factors for Stage I–II Hodgkin Lymphoma**

| Risk Factor | GHSG | EORTC | NCCN |
|---|---|---|---|
| Age | | ≥50 | |
| Histology | | | |
| ESR and B symptoms | >50 if A; >30 if B | >50 if A; >30 if B | ≥50 or any B symptoms |
| Mediastinal mass | MMR > 0.33 | MTR > 0.35 | MMR > 0.33 |
| # Nodal sites | >2* | >3* | >3 |
| E lesion | any | | |
| Bulky | | | >10 cm |

GHSG = German Hodgkin Study Group
EORTC = European Organization for Research and Treatment of Cancer

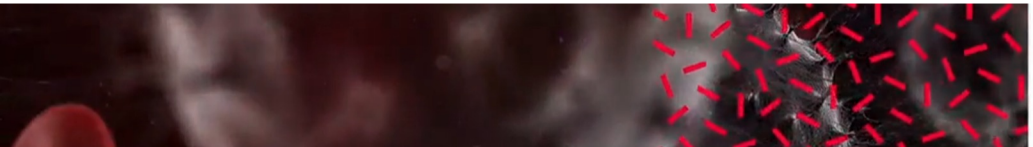
MMR = Mediastinal mass ratio, maximum width of mass/maximum intrathoracic diameter
MTR = Mediastinal thoracic ratio, maximum width of mediastinal mass/intrathoracic diameter at T5–6

| IP score advanced HL- MASH ALL | |
|---|---|
| Male | yes |
| Age | >45 years |
| Stage | IV |
| Hgb | <10.5 g/dl |
| Albumin | <4 g/dl |
| Lymphopenia | <600/ml or <8% WBC |
| Leukocytosis | WBC>15K |

**Definitions of Lymph Node Regions***

| | | Ann Arbor | EORTC | GHSG |
|---|---|---|---|---|
| Supradiaphragmatic Nodal Regions | R Cervical/SCL | | | |
| | R ICL/Subpectoral | | | |
| | R Axilla | | | |
| | L Cervical/SCL | | | |
| | L ICL/Subpectoral | | | |
| | L Axilla | | | |
| | Mediastinum | | | |
| | R Hilum | | | |
| | L Hilum | | | |
| Infradiaphragmatic Nodal Regions | Celiac/Spleen hilar | | | |
| | Paraortic | | | |
| | Mesenteric | | | |
| | R Iliac | | | |
| | L Iliac | | | |
| | R Inguinal/Femoral | | | |
| | L Inguinal/Femoral | | | |

NCCN National Comprehensive Cancer Network®



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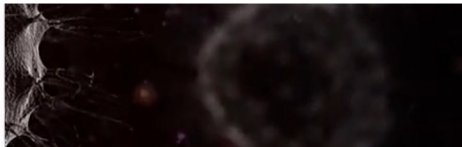
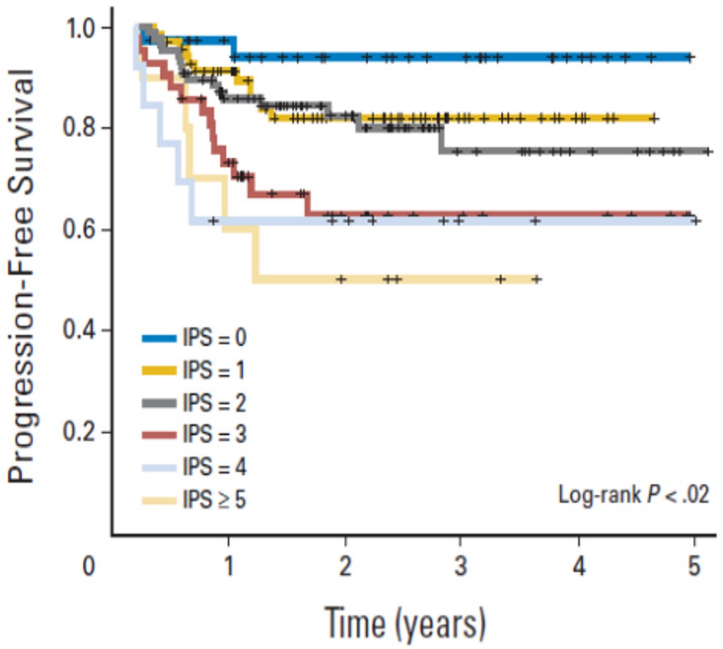
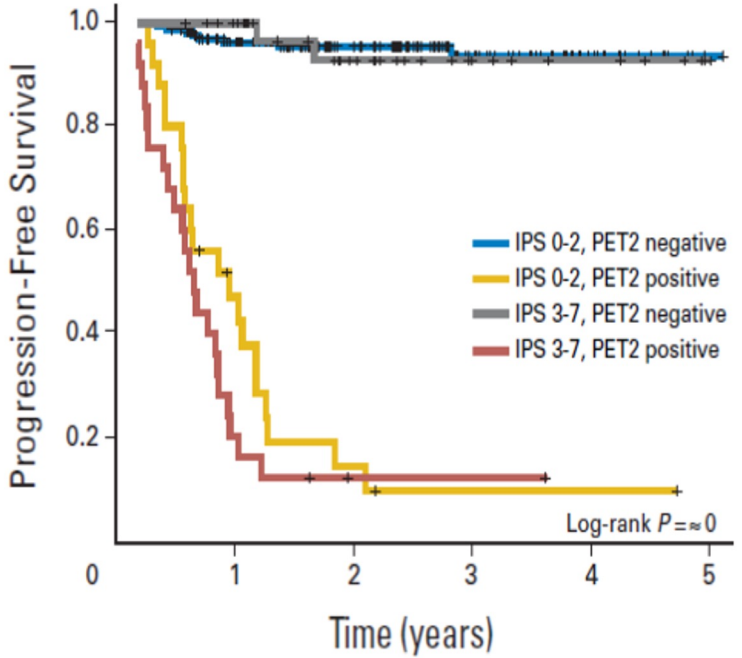
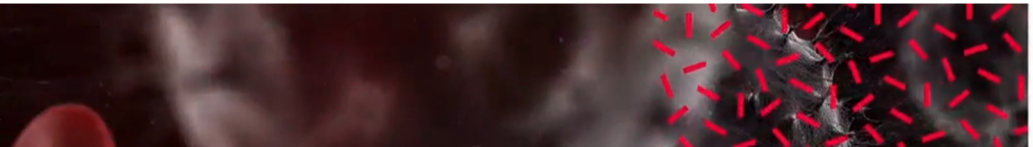


# ¿Cuándo se recomienda RT en LH etapa temprana?




*JCO* 25, 3746-3752(2007)



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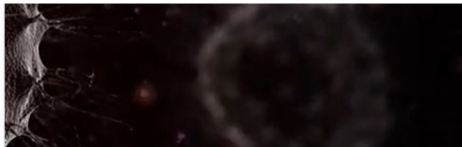


# ¿Cuándo se recomienda RT en LH etapa temprana FAVORABLE?

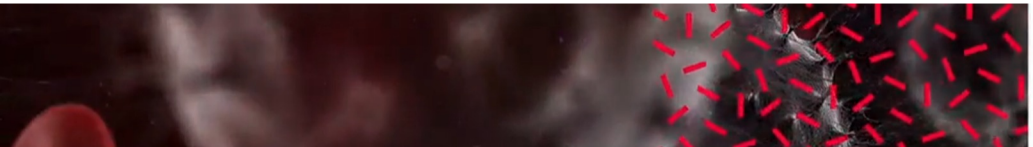
Adaptado según respuesta PET

- ABVDx2 PET(D1-3)
  - 20Gy ISRT (GHSG)
  - ABVDx1 + 30Gy ISRT (EORTC)
  - ABVDx2 (CALB)
- ABVDx2 PET(D4-5)
  - ABVDx2 + 30Gy ISRT
  - escBEACOPPx2 + 30Gy ISRT

| Early Favorable-- RER | | Chemo | Radiation | 5yr PFS |
|---|---|---|---|---|
| GHSG HD16 | PET2 (DS1-2) | ABVD x2 | 20 Gy IFRT | 93% |
| | PET2 (DS1-2) | ABVD x2 | None | 86% |
| UK Rapid | PET3 (DS1-2) | ABVD x3 | 30 Gy IFRT | 97% (3y) |
| | PET3 (DS1-2) | ABVD x3 | None | 91% (3y) |
| EORTC H10F | PET2 (DS1-2) | ABVD x3 | 30 Gy INRT | 99% |
| | PET2 (DS1-2) | ABVD x4 | None | 87% |
| CALGB 50604 | PET2 (DS1-3) | ABVD x4 | None | 91% (3y) |

| Early Stage- SER | | Chemotherapy | Radiation | 5yr PFS |
|---|---|---|---|---|
| GHSG HD16 | PET2 (D3-4) | ABVDx2 | 20 Gy IFRT | 88% (80% D4) |
| UK Rapid | PET3 (D3-5) | ABVDx4 | 30 Gy IFRT | 88% |
| EORTC H10- F & U | PET2 (D3-5) | ABVDx2; eBEACOPPx2 | 30-36 Gy INRT | 91% |
| | PET2 (D3-5) | ABVDx3-4 | 30-36 Gy INRT | 77% |
| CALGB 50604 | PET2 (D4-5) | ABVDx2; eBEACOPPx2 | 30.6 Gy ISRT | 67% |
| CALGB 50801 (bulky) | PET2(D4-5) | ABVDx2; eBEACOPPx4 | 30.6 Gy ISRT | 90% |

*Prof. B. Hoppe (Mayo Clinic)*



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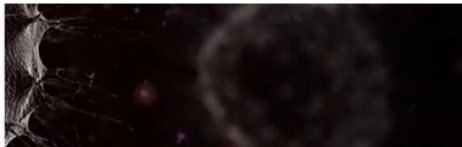

# ¿Cuándo se recomienda RT en LH etapa temprana DESFAVORABLE?

Adaptado según respuesta PET

- ABVDx2 PET(D1-3)
  - ABVDx2 + 30Gy ISRT (EORTC/UKr)
  - A(B)VDx4 (EORTC/CALB)
- ABVDx2 PET(D4-5)
  - ABVDx2 + 30Gy ISRT (EORTC/UKr)
  - escBEACOPPx2-4 + 30Gy ISRT (CALGB)

| Early Unfavorable- RER | | Chemo | Radiation | 5yr PFS |
|---|---|---|---|---|
| EORTC H10U | PET2 (D1-2) | ABVD x2; ABVDx2 | 30 Gy INRT | 92% |
| | PET2 (D1-2) | ABVD x2; ABVDx4 | None | 90% |
| UK RATHL (UF & advanced stage) | PET2 (D1-3) | ABVD x2; ABVDx4 | None | 92% |
| | PET2 (D1-3) | ABVD x2; AVDx4 | None | 92% |
| CALGB 50801 | PET2 (D1-3) | ABVDx2; ABVDx4 | None | 93% |

| Early Stage- SER | | Chemotherapy | Radiation | 5yr PFS |
|---|---|---|---|---|
| GHSG HD16 | PET2 (D3-4) | ABVDx2 | 20 Gy IFRT | 88% (80% D4) |
| UK Rapid | PET3 (D3-5) | ABVDx4 | 30 Gy IFRT | 88% |
| EORTC H10- F & U | PET2 (D3-5) | ABVDx2; eBEACOPPx2 | 30-36 Gy INRT | 91% |
| | PET2 (D3-5) | ABVDx3-4 | 30-36 Gy INRT | 77% |
| CALGB 50604 | PET2 (D4-5) | ABVDx2; eBEACOPPx2 | 30.6 Gy ISRT | 67% |
| CALGB 50801 (bulky) | PET2(D4-5) | ABVDx2; eBEACOPPx4 | 30.6 Gy ISRT | 90% |

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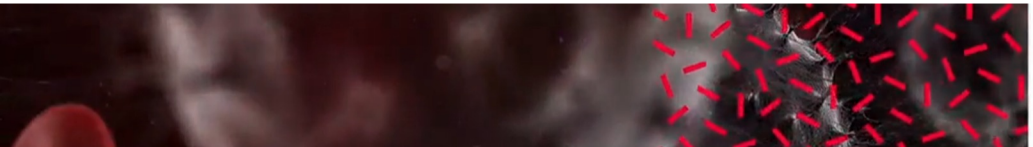

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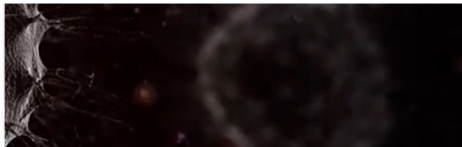
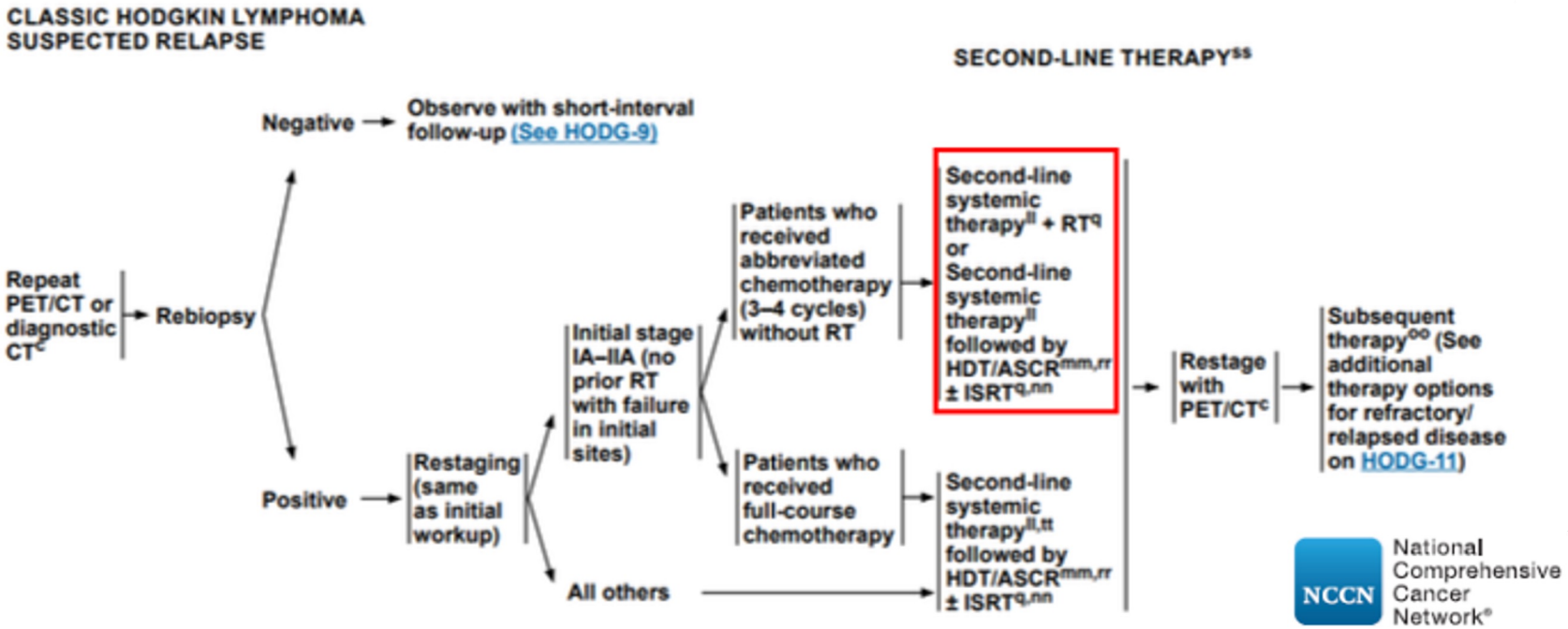
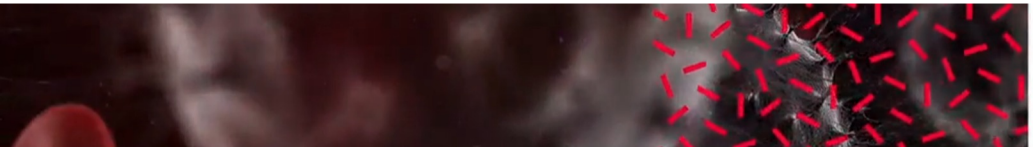


# Rol de la radioterapia en el manejo del LH etapa temprana RECAIDOS



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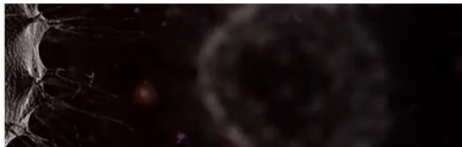
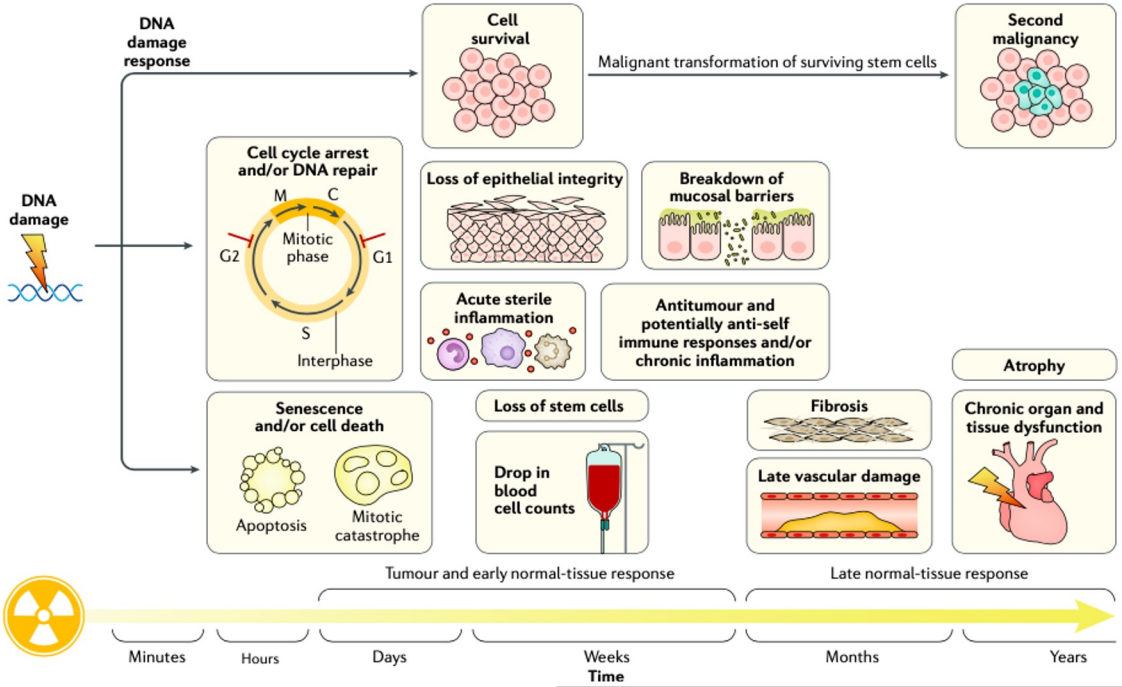


# Sospecha, diagnóstico y manejo toxicidades RT

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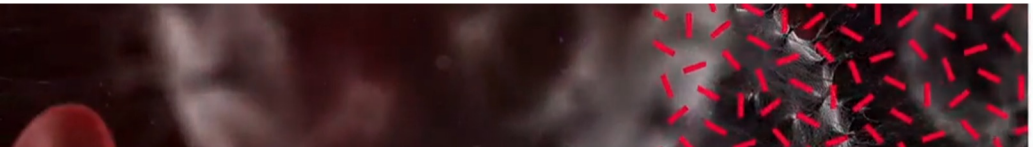

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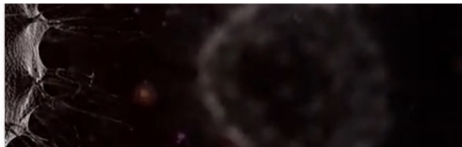
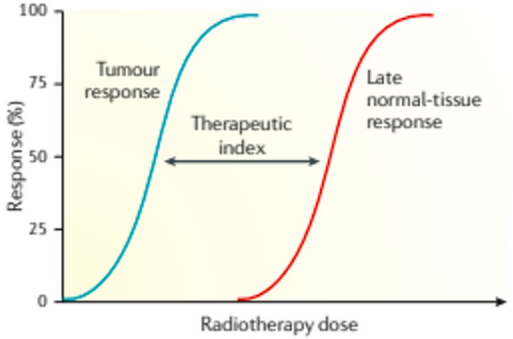


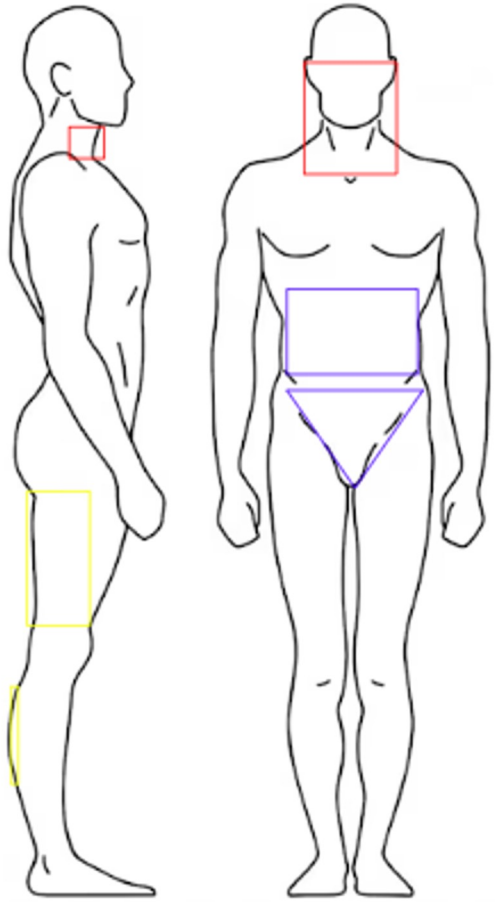
## Sospecha, diagnóstico y manejo toxicidades RT

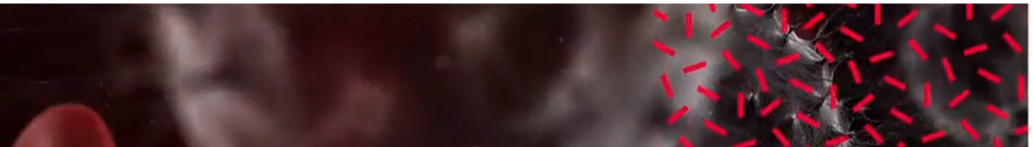
La toxicidad de la radioterapia depende de la **dosis** y el **volumen** irradiado

Dividimos distintas toxicidades actínicas en:

-agudas (ej: radiodermitis, mucositis)
-subagudas (ej: pneumonitis)
-tardías (ej: fibrosis)





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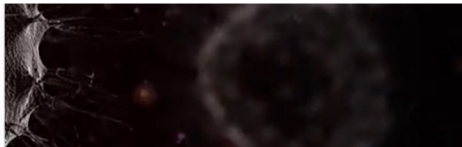
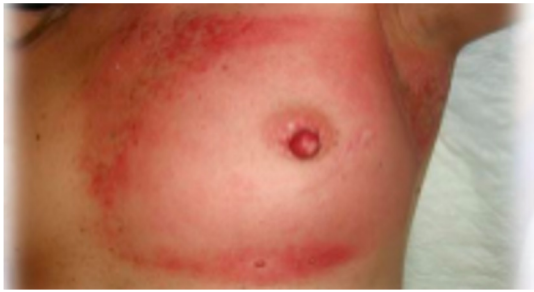
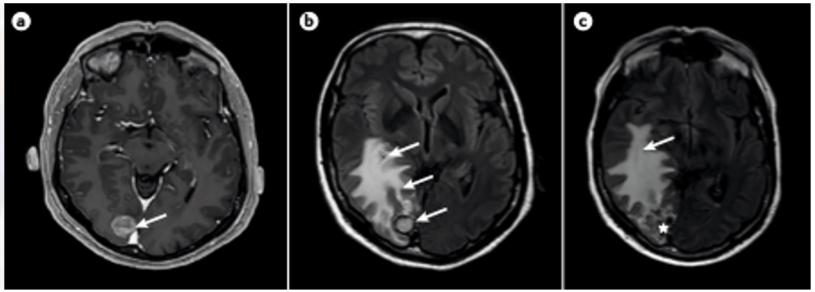
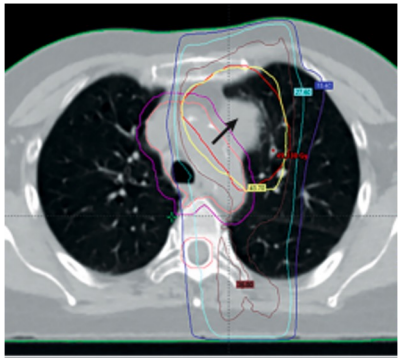
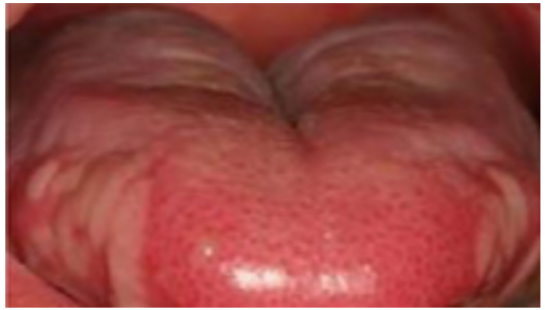


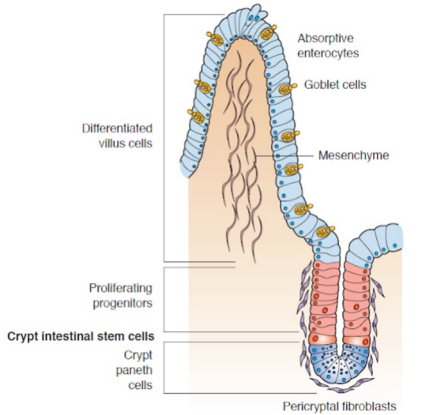
# Sospecha, diagnóstico y manejo toxicidades RT

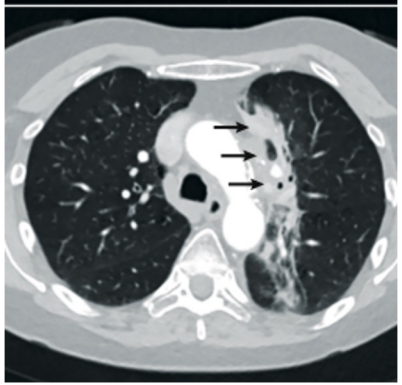


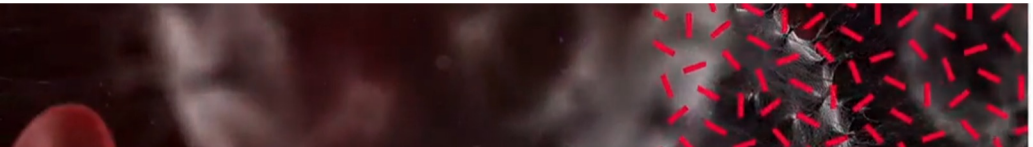








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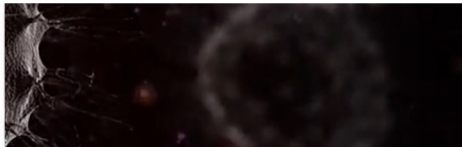
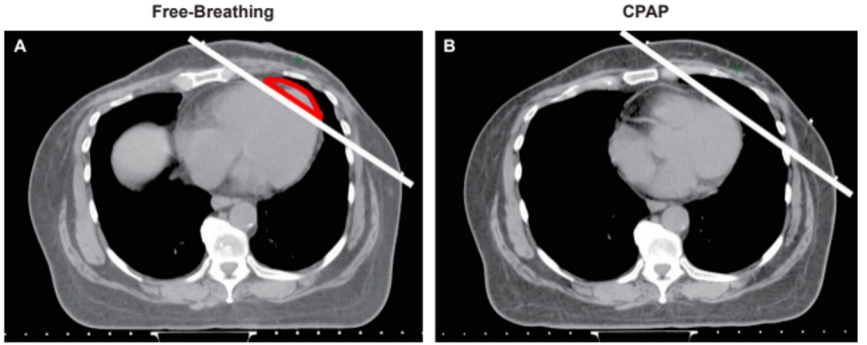


# Sospecha, diagnóstico y manejo toxicidades RT

| Toxicidad | Prevención |
|---|---|
| Radiodermitis, mucositis | Crop piel, analgesia, rol enfermería |
| Astenia | Información paciente, corticoides añosos |
| Neumonitis | Constraints |
| Corazón | Uso CPAP/DIBH, cardio-oncología |
| Linfedema | Evitar disección si se hará RT |
| Fibrosis | PTX/VitE 6 meses |
| Hipotiroidismo | segumiento (TSH, Eco) |
| Carcinogénesis | ALARA OARs |
| Disminuir dosis y volumen | ISRT, low y ultra-low dose |

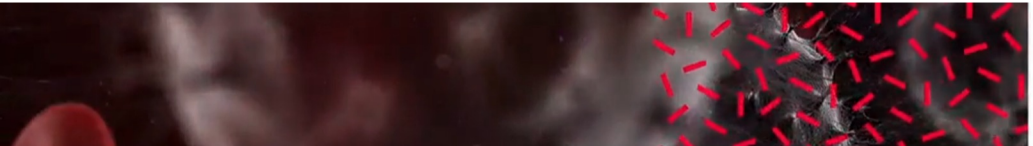



Normal Structures & Goals: (Check all to be Contoured)

| Structure | Priority | Measure | Target Value |
|---|---|---|---|
| BRAIN | 3 or | Mean [Gy] | < 60 or |
| BRAINSTEM | 1 or | D0.10cc [Gy] | < 54 or |
| BRAINSTEM_PRV3 | 1 or | D0.10cc [Gy] | < 54 or |
| CHIASM | 1 or | D0.10cc [Gy] | < 54 or |
| CHIASM_PRV3 | 3 or | D0.10cc [Gy] | < 54 or |
| COCHLEA_L | 1 or | D0.10cc [Gy] | < 40 or |
| COCHLEA_R | 1 or | D0.10cc [Gy] | < 40 or |
| CONSTRICTOR_INF | 1 or | Mean [Gy] | < 20 or |
| CONSTRICTOR_SUP | 3 or | Mean [Gy] | < 50 or |
| CORD | 1 or | D0.10cc [Gy] | < 45 or |
| CORD_PRV5 | 1 or | D0.10cc [Gy] | < 50 or |
| ESOPHAGUS | 1 or | Mean [Gy] | < 20 or |
| Eye_L | 1 or | D0.10cc [Gy] | < 40 or |
| Eye_R | 1 or | D0.10cc [Gy] | < 40 or |
| LACRIMAL_L | 1 or | Mean [Gy] | < 30 or |
| LACRIMAL_R | 1 or | Mean [Gy] | < 30 or |

Normal Structures & Goals: (Check all to be Contoured)

| Structure | Priority | Measure | Target Value |
|---|---|---|---|
| LARYNX | 1 or | Mean [Gy] | < 20 or |
| LENS_L | 1 or | D0.10cc [Gy] | < 10 or |
| LENS_R | 1 or | D0.10cc [Gy] | < 10 or |
| LIPS | 1 or | V35Gy | < 5%or |
| MANDIBLE | 3 or | D0.10cc [Gy] | < 70 or |
| OPTNRV_L | 1 or | D0.10cc [Gy] | < 54 or |
| OPTNRV_L3 | 3 or | D0.10cc [Gy] | < 54 or |
| OPTNRV_R | 1 or | D0.10cc [Gy] | < 54 or |
| OPTNRV_R3 | 3 or | D0.10cc [Gy] | < 54 or |
| ORAL_CAVITY | 3 or | Mean [Gy] | < 30 or |
| PAROTID_L | 3 or | Mean [Gy] | < 24 or |
| PAROTID_R | 3 or | Mean [Gy] | < 24 or |
| SUBMAND_L | 3 or | Mean [Gy] | < 30 or |
| SUBMAND_R | 3 or | Mean [Gy] | < 30 or |
| TEMP_LOBE_L | 3 or | D0.10cc [Gy] | < 60 or |
| TEMP_LOBE_R | 3 or | D0.10cc [Gy] | < 60 or |



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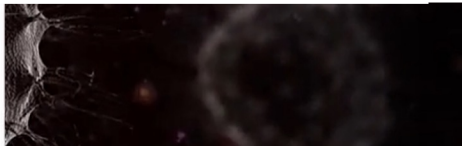
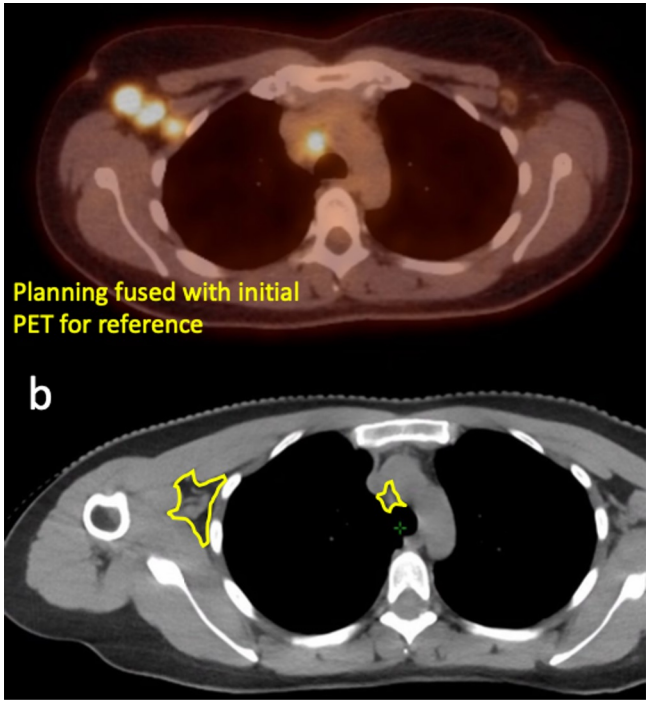
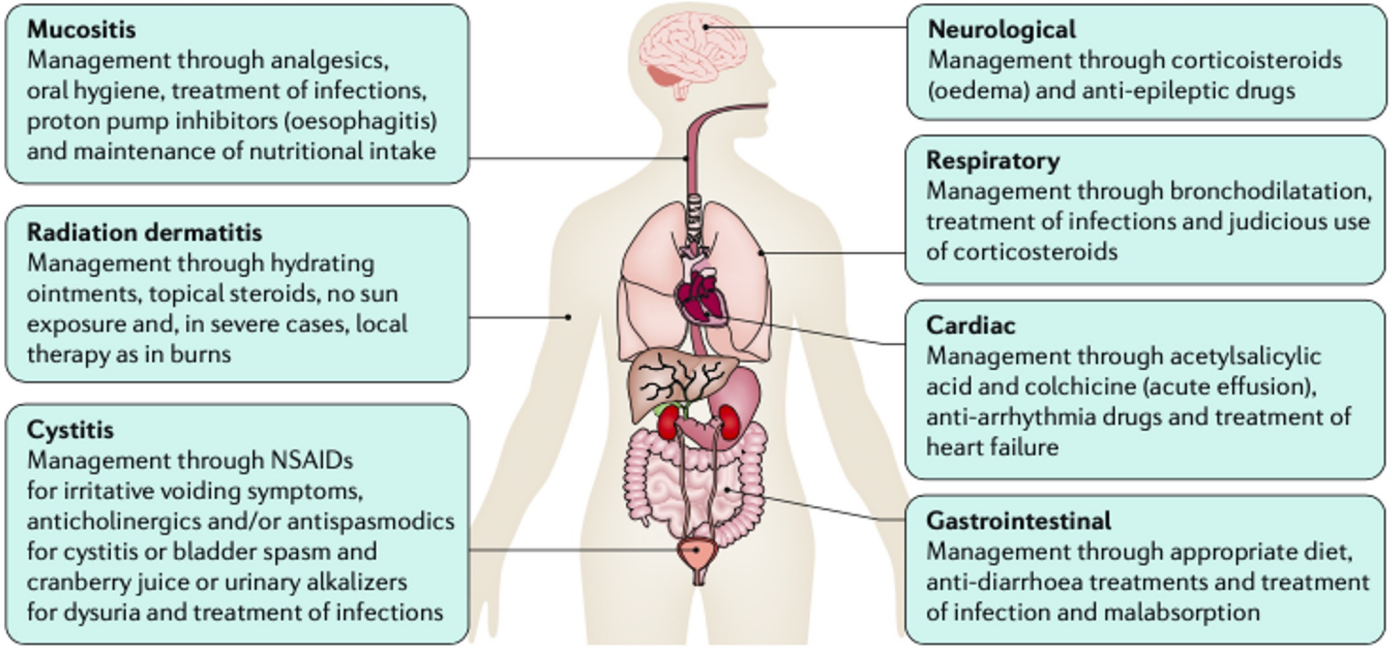


# ISRT = Involved site radiation therapy



# Sospecha, diagnóstico y manejo toxicidades RT

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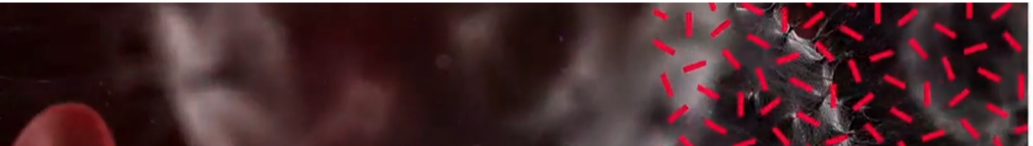

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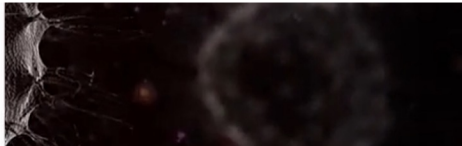
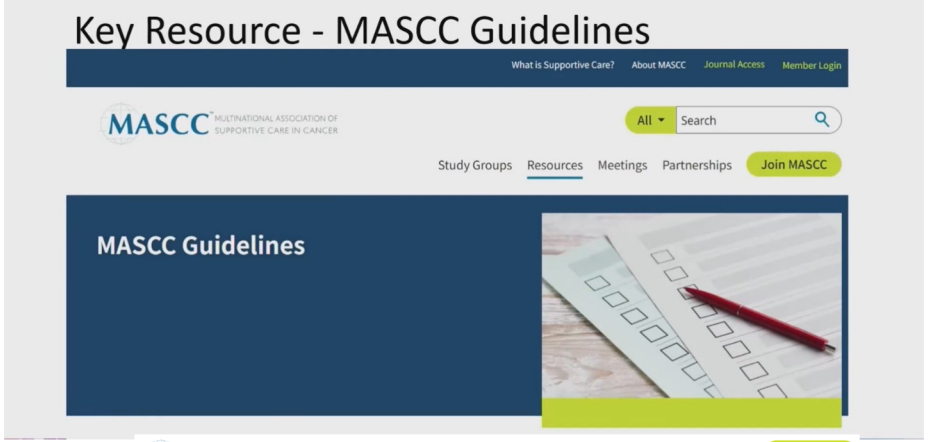
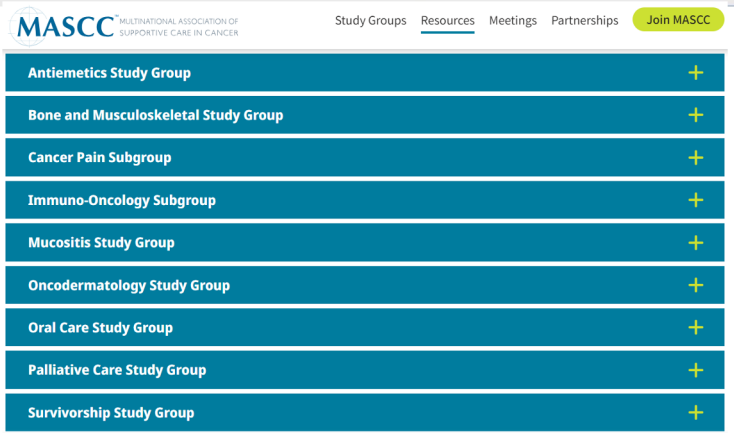


| Toxicity | Timing | Management |
|---|---|---|
| Skin, connective tissues, and breast | | |
| Dermatitis | Acute | • Dry and avoid irritation; steroid creams (for high risk: mometasone 0.1% bid from RT start), aloe, corn starch, nystatin powder; adhesive silicone, silver sulfadiazine, opiates for severe moist desquamation |
| Fibrosis | Late | • Pentoxifylline (400 mg bid-tid) and vitamin E (400 IU qd) for 6 mo starting 2-4 wk after RT (eg, for RT after postmastectomy reconstruction) |
| Lymphedema | Late | • Physical therapy (manual lymphatic drainage), compression devices/garments, complete decongestive therapy |
| Bone pain flare | Acute | • Dexamethasone 2-8 mg qd for 3-5 d at/before RT or prn for painful bone metastases, depending on expected/observed severity |
| CNS | | |
| CNS edema/radiation necrosis | Both | • Dexamethasone 2-16 mg qd for ≥1-4 wk based on severity, with GI prophylaxis and steroid taper for longer courses; bevacizumab/surgery for refractory necrosis |
| Cognitive | Late | • Before RT: Memantine 5-10 mg qd, increasing to 20 mg by 4 wk, total 24 wk; after RT: donepezil 5 mg qd for 6 wk, 10 mg qd for 18 wk |
| Head and neck | | |
| Mucositis | Acute | • Salt and baking soda/hydrogen peroxide rinse or other mouthwash containing lidocaine, diphenhydramine, antacid, and/or nystatin; opiates if severe and affecting nutrition, with long-acting (transdermal preferred) and breakthrough |
| Xerostomia | Both | • Xylitol-containing candies/gums, saliva substitutes, and mouthwashes |
| Dentition/osteoradionecrosis | Late | • Fluoride trays for routine care; pentoxifylline and vitamin E +/– clodronate, antibiotics, and prednisone for conservative management of osteoradionecrosis |
| Fibrosis (dysphagia, jaw, neck) | Late | • Speech/language pathologist for dysphagia, jaw physical therapy for trismus, massage therapy for neck stiffness/lymphedema, acupuncture for pain |
| Lung | | |
| Pneumonitis | Late | • Prednisone 40-60 mg qd for 2-4 wk, tapering over 4-8 wk total, depending on severity and comorbidities, with GI prophylaxis |
| Heart | | |
| Pericarditis | Acute | • NSAIDs, eg, ibuprofen 200-800 mg tid prn for 1-2 wk |
| Gastrointestinal | | |
| Esophagitis | Acute | • Soft/liquid diet; antacids, viscous lidocaine (before swallowing), and/or opiates (before meals); fluconazole for empiric treatment of candida esophagitis |
| Nausea | Acute | • Antacids, prn ondansetron or prochlorperazine (both tid and alternating if severe) |
| Gastritis/ulceration | Both | • Avoid gastric irritants; antacids and prolonged course of proton pump inhibitors; formalin for refractory bleeding, coagulation if severe |
| Enteritis | Both | • Low fiber/residue/fat diet; loperamide (qd/bid prn) and/or diphenoxylate/atropine; subcutaneous octreotide (100 µg tid for 3-5 d) if refractory with dehydration |
| Proctitis | Both | • Steroid creams; for late hematochezia, sucralfate enema, formalin, and coagulation |
| Genitourinary | | |
| Obstructive urinary symptoms | Both | • Avoid fluids before sleep, minimize caffeine and alcohol; α-blockers (eg initiate/increase tamsulosin dose for 3-6 mo after RT); steroids if severe |
| Cystitis | Both | • Rule out urinary tract infection; phenazopyridine for dysuria; antimuscarinics (eg, oxybutynin, solifenacin) for severe frequency, urge incontinence, and/or bladder spasms |
| Sexual | | |
| Female | Late | • Topical estrogens, regular vaginal dilator usage, pelvic floor physical therapy |
| Male | Late | • Phosphodiesterase inhibitors (eg, sildenafil), vacuum devices, urologic interventions |

# Key Resource - MASCC Guidelines

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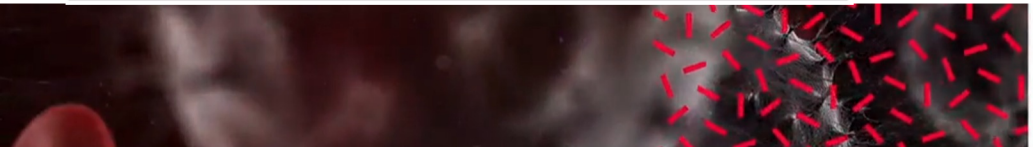

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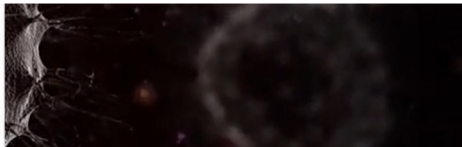
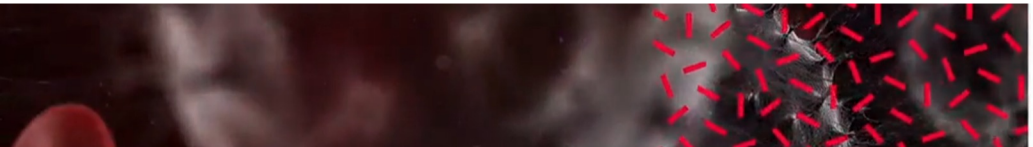


## Conclusiones

- la radioterapia tiene un rol importante en pacientes seleccionados con LH temprano
- las herramientas tecnológicas, el conocimiento y la cada vez mayor sobrevida de los pacientes hace fundamental la prevención y adecuado manejo de posibles toxicidades
- el equipo multidisciplinario es fundamental


¿Preguntas?

Gracias.



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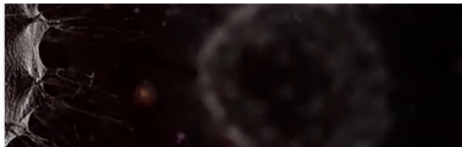

# Desmitificando la radioterapia en Hodgkin localizado

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ABRIL 3·4·5 2025

Dra. Claudia Carvajal
Jefe servicio radioterapia
Clínica Alemana de Santiago
ccarvajal@alemana.cl