Skin cancer radiotherapy

PATIENT'S GUIDE

Made by Dr(s) Wong Ru Xin, Looi Wen Shen and Shaun Ho
Consultant radiation oncologist

Common skin cancers in Singapore

Basal cell

Squamous cell

Cutaneous angiosarcoma

Extra mammary paget's disease of the perineum

Rare >

Melanoma (acral lentigenous type)

Merkel

Porocarcinoma

Cutaneous lymphomas

Schedule

Consultation
CT simulation
Planning
Treatment starts

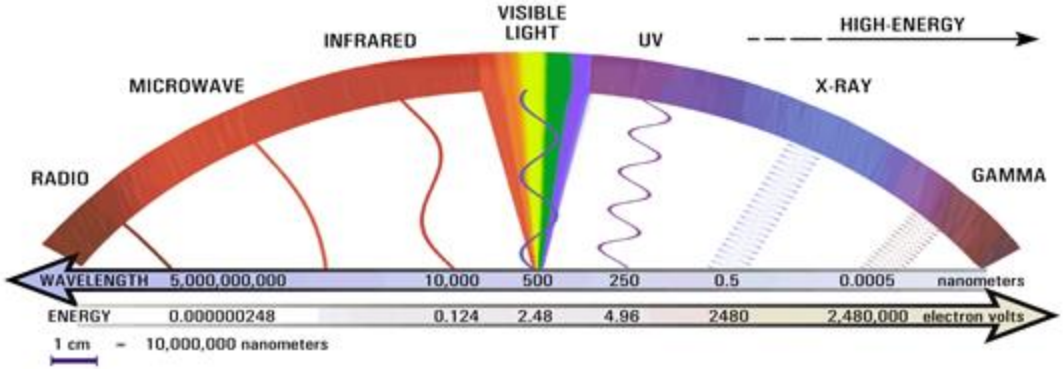
1-2 weeks

1st week | 2nd week | 3rd week| 4th week| 5th week |6th week

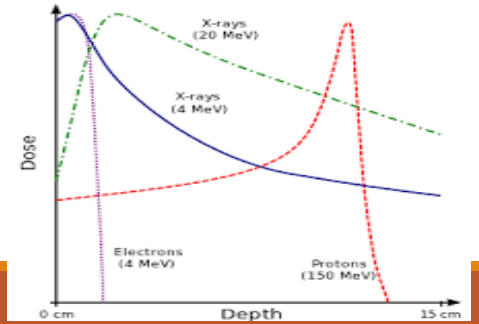
5 times a week

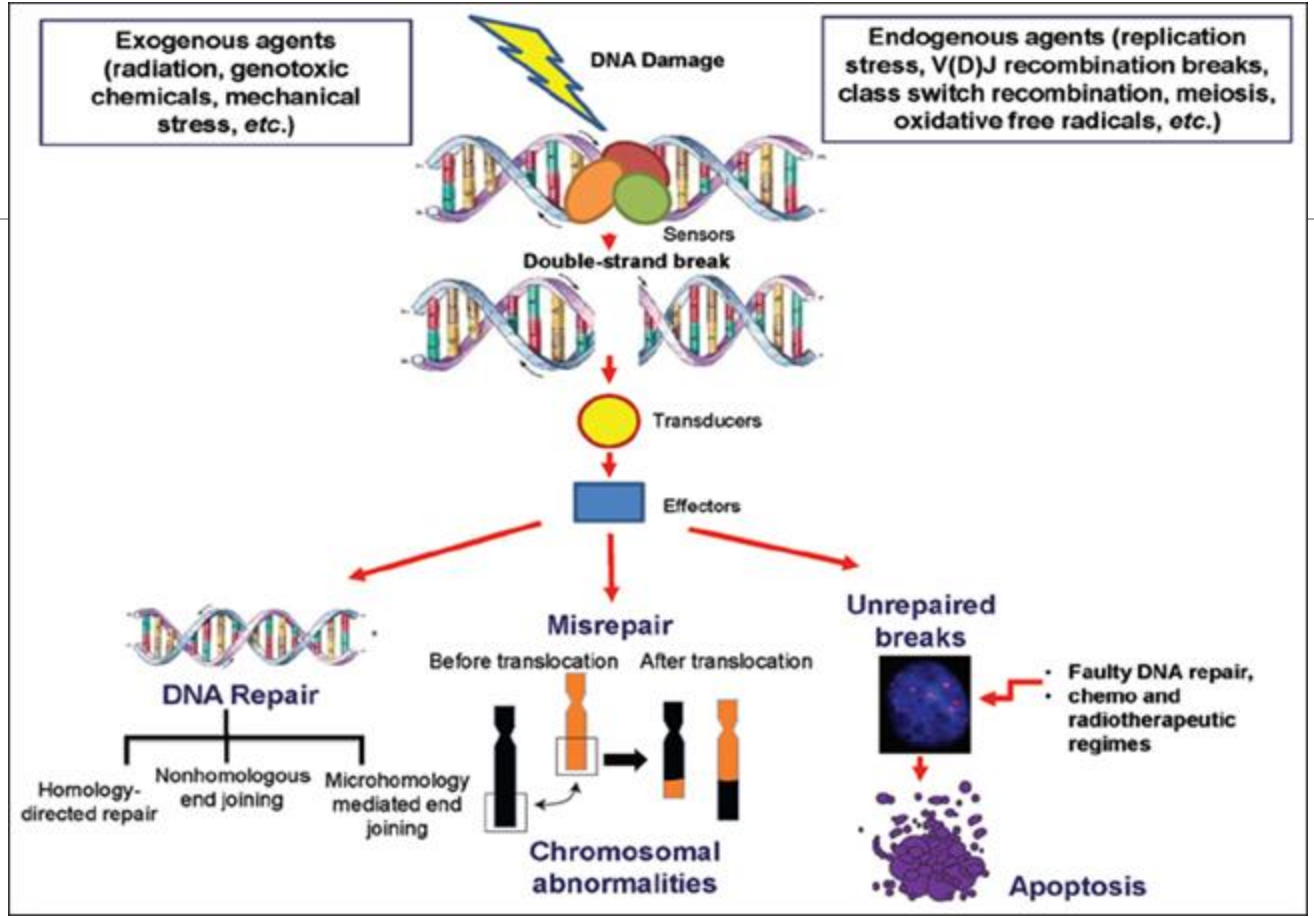
What is radiotherapy

High energy XR



electrons




Exogenous agents (radiation, genotoxic chemicals, mechanical stress, etc.)
DNA Damage
Endogenous agents (replication stress, V(D)J recombination breaks, class switch recombination, meiosis, oxidative free radicals, etc.)
Sensors
Double-strand break
Transducers
Effectors
DNA Repair
Homology-directed repair
Nonhomologous end joining
Microhomology mediated end joining
Misrepair
Before translocation
After translocation
Chromosomal abnormalities
Unrepaired breaks
Faulty DNA repair,
chemo and radiotherapeutic regimes
Apoptosis

SCC and BCC

- Use radiotherapy if
- Inoperable
- Patient's preference

- Avoid radiotherapy if vascularity is poor

Palliative doses

- 8-12 Gy/ Single #
- 20 Gy/ 5#/ 1 week
- 36Gy/ 6#/ once a week *
- 24Gy/ 3#/ once a week
- Any of the radical schedules can also be used

– *Barnes et al, Clin Oncol 2010*

Images courtesy of Dr. A. Taylor

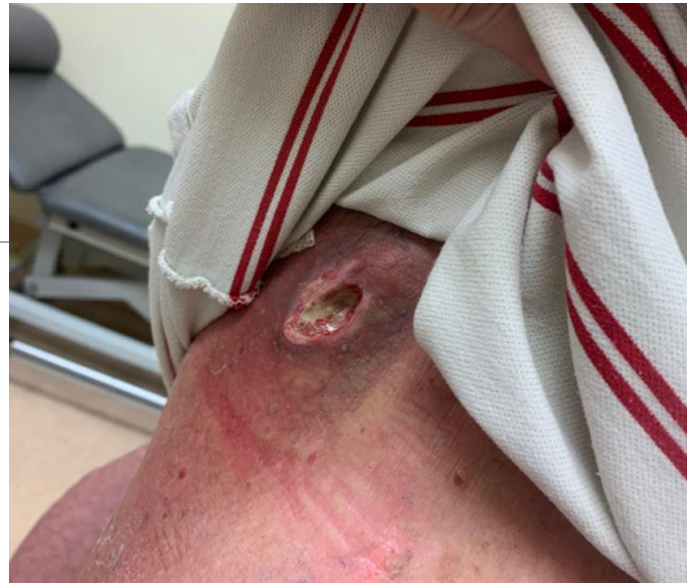
Curative doses

Dose/ Fractionation

- Field size < 3 cm
  - 35Gy in 5# *
  - 18-20 Gy single fraction*
- Field size > 3cm/ nose, pinna, poorly vascularised skin
  - 45Gy/ 10#/ 2 weeks *
  - 50.1Gy in 15 #/ 3 weeks (3.34Gy per #) *
  - 60 Gy/ 30#/ 6 weeks
- Field size > 5cm
  - 50.1Gy in 15 #/ 3 weeks
  - 55 Gy/ 20#/ 4 weeks *
  - 66 Gy/ 33#/ 6 weeks
  - *Most commonly used hypo-fractionation schedules

– *Mcpartlin et al, BJR 2004*

Squamous cell

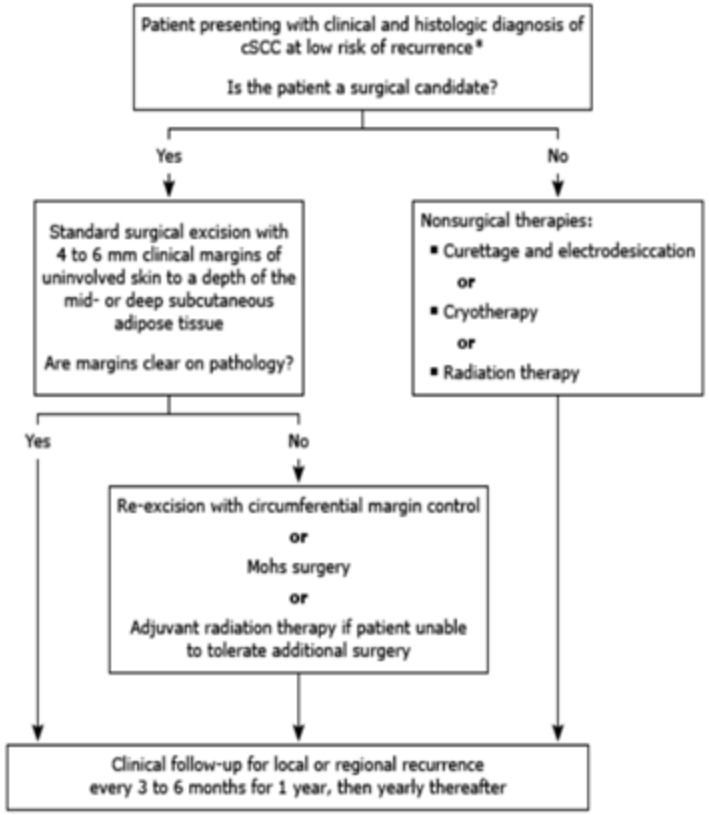


Adjuvant RT: high risk

Curative RT : if not surgical candidate

Metastatic: immunotherapy

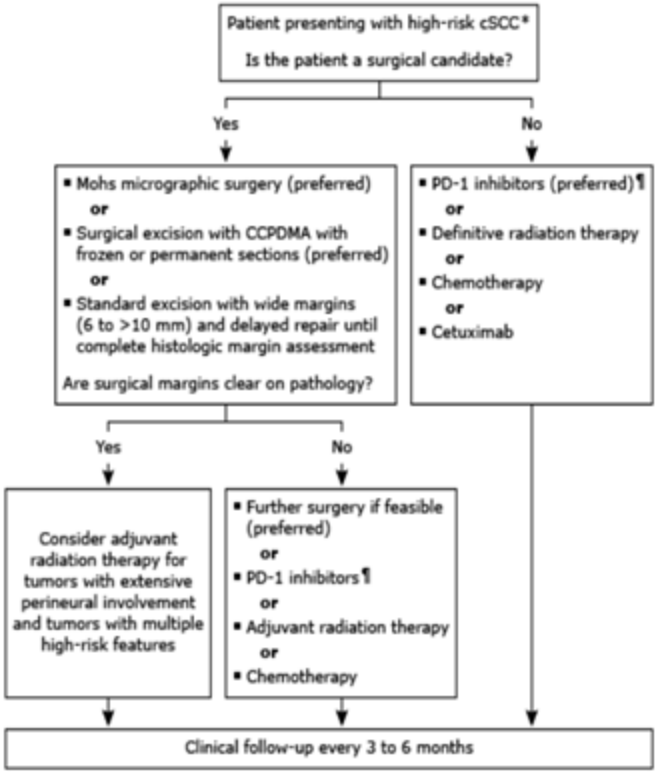
Management of low-risk cutaneous squamous cell carcinoma (cSCC)[1]



* Definition of low-risk primary cSCC according to the NCCN guidelines, version 1.2021:

- Well-defined, primary cSCC <20 mm located on trunk or extremities (excluding pretibia, hands, feet, nail units, and ankles)
- well or moderately differentiated tumor, ≤6 mm in thickness and no invasion beyond subcutaneous fat, without perineural, lymphatic, or vascular invasion
- No immunosuppression
- Slow growing, no neurologic symptoms

Management of cutaneous squamous cell carcinoma at high risk of recurrence



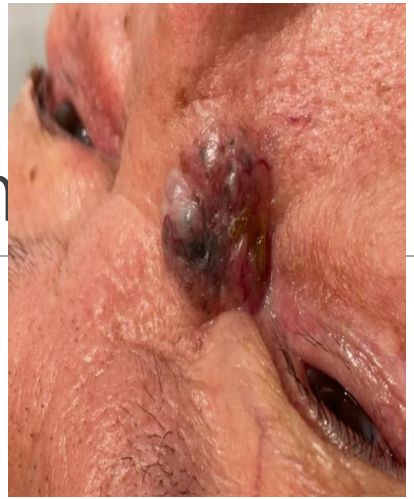
Adjuvant RT in risk factors

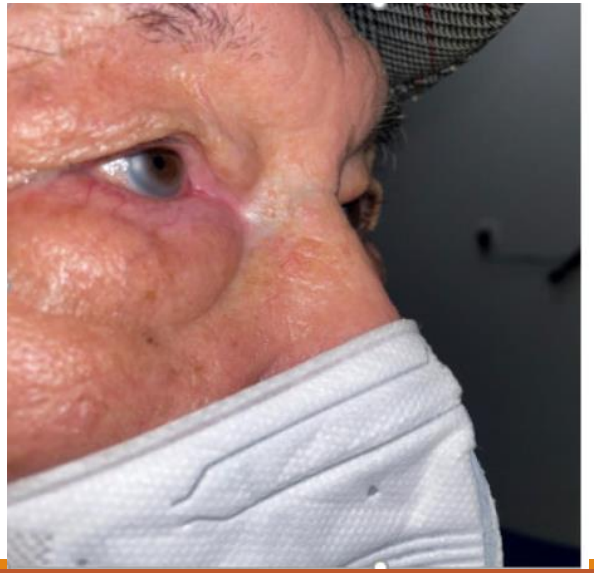
- +margins
- Nerve involvement
- Recurrence
- Satellite nodules
- Nodal spread

Basal cell carcinom

Small: surgery

Radiotherapy can be curative





Merkel

Surgery with adjuvant radiotherapy

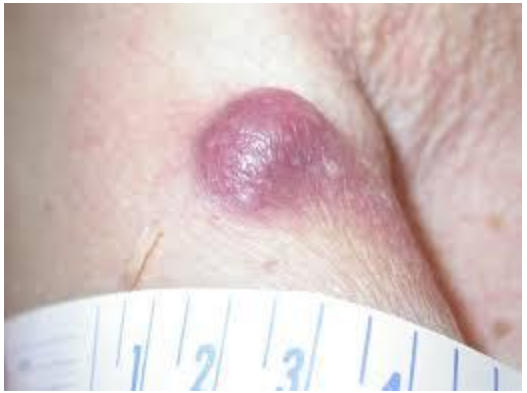
Consider neoo(adjuvant) immunotherapy

Curative radiotherapy 80% control rates

+/- Nodal regional radiotherapy

very wide margins are needed

Metastatic: immunotherapy



Melanoma

Localised → surgery, node sampling

Metastatic → systemics

Radiotherapy

→ radiosurgery for oligometastatic ablation

→ palliation for bleeding nodules

Angiosarcoma

Vascular cancer, very infiltrative, hematogenous spread

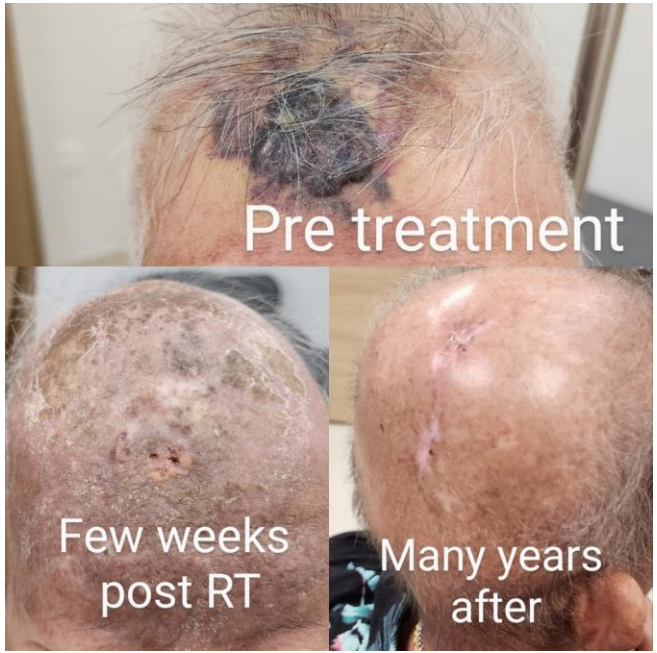
Surgery is curative if tumour is small (rare)

Often, chemotherapy as mainstay of treatment

Radiotherapy role →

Consolidation after chemotherapy

Palliative (bleeding, pain)

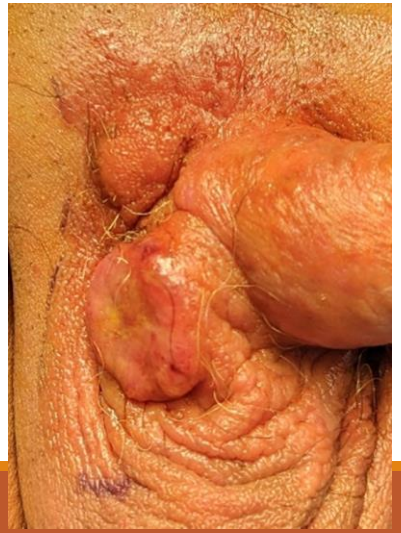


EMPD

Commonly occurs in perineum of patients

Curative: surgery

Radiotherapy: palliative or curative if not surgical candidate, or for recurrence



Process

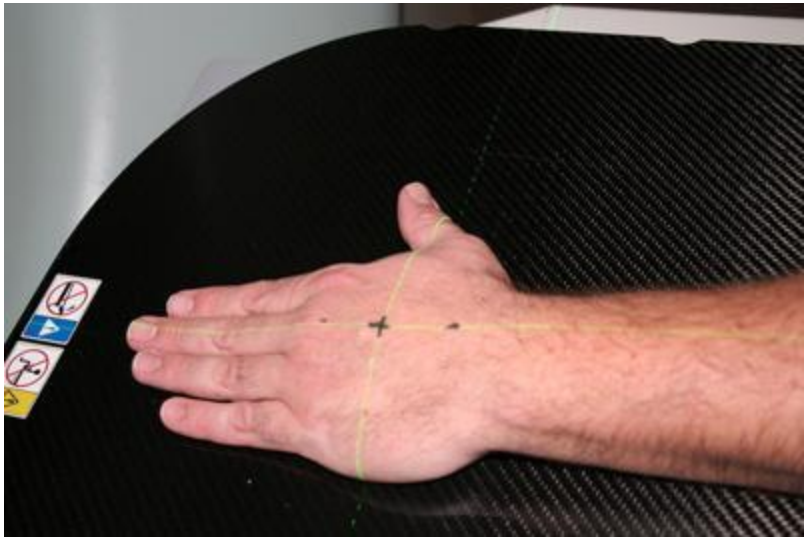
CT
simulation

Immobilization

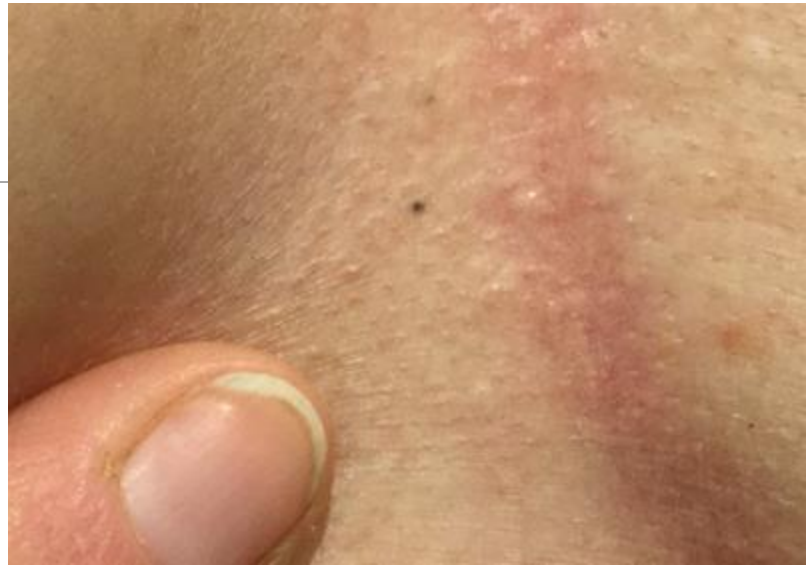
Source: www.qfix.com

Direct electrons for superficial lesions

Tattoo



www.oncolink.org



Community.macmillian.org.uk

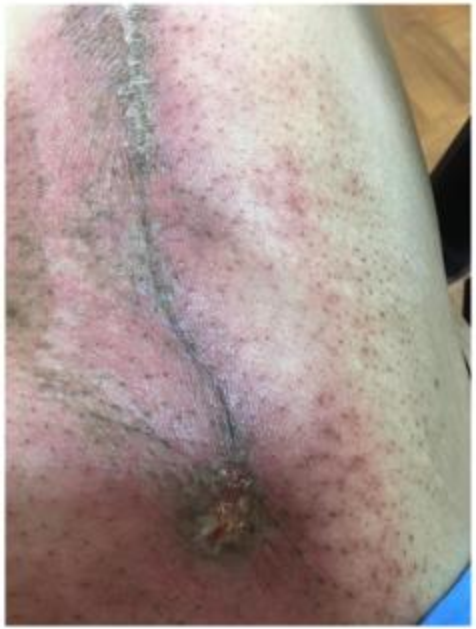
Treatment room

Patient care

- Light moderate exercise during RT
  - Normal lifestyle after
- Symptomatic medicines during RT
  - Skin ointment
- Avoid supplements with anti-oxidants

Skin protection

- STRATA xrt
- Dermacyn ezema
- 3M Carvilon
- Topical steroids



Toxicities

Acute:

- Dermatitis

Chronic:

- Fibrosis
- Swelling
- telangiectasia

Contact us

Wenshen.looi@proton.sg

Ruxin.wong@proton.sg

Shaun.ho@proton.sg

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