



Multidisciplinary Approaches to Cancer Symposium

Tumor Board Multidisciplinary Management of Advanced Non-melanomatous Skin Cancer

Panelists:

Badri Modi, MD

Krupal Patel, MD

Sean Maroongroge, MD, MBA

Panel & Disclosures

Badri Modi, MD

Associate Clinical Professor, Division of
Dermatology, Department of Surgery
City of Hope

- *Consultant for Sun Pharmaceuticals; and On the Speakers Bureau for Regeneron*

Krupal Patel, MD, MSc

Assistant Professor, Division of Head and
Neck Surgery, Department of Surgery
City of Hope

- *Consultant for Johnson & Johnson, & Rakuten Medical; and Stock/Shareholder (publicly owned company) of Bristol Myers Squibb, Pfizer & Regeneron*

Sean Maroongroge, MD, MBA

Assistant Clinical Professor of Radiation
Oncology
City of Hope

- *No relevant financial relationships*

This presentation and/or comments will be free of any bias toward or promotion of the above referenced company or their product(s) and/or other business interests.

This presentation and/or comments will provide a balanced, non-promotional, and evidence-based approach to all diagnostic, therapeutic and/or research related content.

This presentation has been peer-reviewed and no conflicts were noted.

Cultural Linguistic Competency (CLC) & Implicit Bias (IB)

STATE LAW:

The California legislature has passed Assembly Bill (AB) 1195, which states that as of July 1, 2006, all Category 1 CME activities that relate to patient care must include a cultural diversity/linguistics component. It has also passed AB 241, which states that as of January 1, 2022, all continuing education courses for a physician and surgeon **must** contain curriculum that includes specified instruction in the understanding of implicit bias in medical treatment.

The cultural and linguistic competency (CLC) and implicit bias (IB) definitions reiterate how patients' diverse backgrounds may impact their access to care.

EXEMPTION:

Business and Professions Code 2190.1 exempts activities which are dedicated solely to research or other issues that do not contain a direct patient care component.

The following CLC & IB components will be addressed in this presentation:

- *The impact of skin color on development of non-melanoma skin cancer*
- *Barriers faced by skin cancer patients*

Learning Objectives

- Understand principles of radiation therapy and modalities used to treat skin cancer
- Understand when radiation therapy is an appropriate definitive treatment option for patients with cutaneous squamous cell carcinomas (CSCC) or basal cell carcinomas (BCC).
- Understand when radiation therapy is an appropriate adjuvant therapy for patients with CSCC or BCC.

Case 1

- 95-year-old woman with a history of multiple non-melanoma skin cancers, more than 10+ treatments with Mohs surgery, presents with a new bleeding papule on the right side of her nose.
- Biopsy shows a nodular BCC.



Case 2

- July 2024: Left cheek lesion – shave biopsy – SCC



Case 3

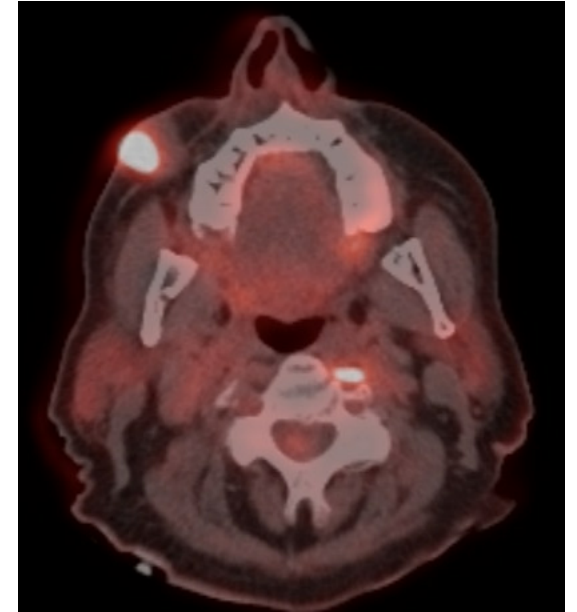
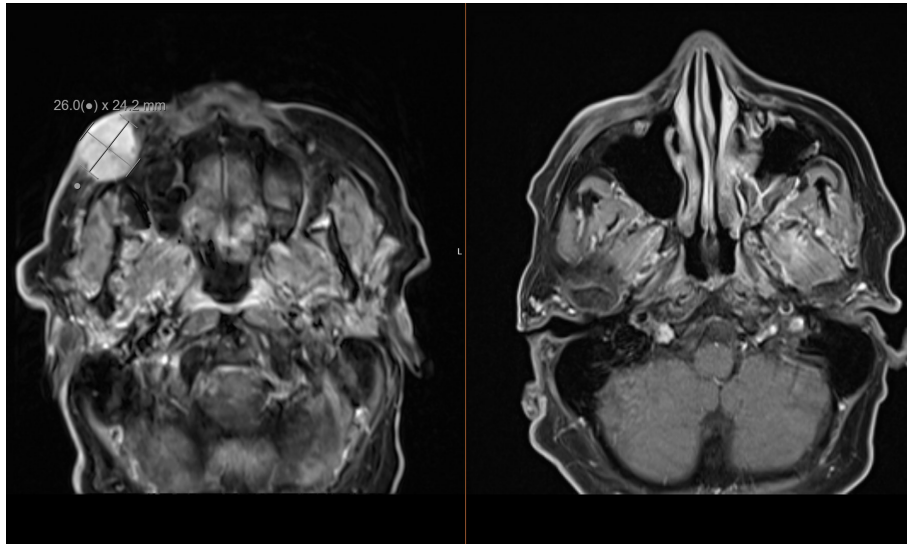
- Right preauricular lesion – SCC
- April 2025 – Mohs resection – positive margins



Case 4



- 87 year old with hx coronary stent and DVT on eliquis
 - o 5 years ago SCC of the right cheek excised
 - o 2 years of right cheek numbness
 - o Biopsy proven SCC with focal ACC



Asymmetric enlargement and enhancement of the right infraorbital nerve extending back to foramen rotundum without abnormal enhancement and Meckel's cave or the cisternal trigeminal nerve

Background and General Information

- Imprecise epidemiologic data for CSCC & BCC
 - 2012: American Cancer Society reported 5.4 million cases of keratinocytic carcinomas in 3.3 million individuals. More than 1 million CSCCs.
 - From 2006-2012, Total Claims Data Set and Medicare Limited Data Set found that NMSC were the most common malignancy treated based on CPT codes. The total number of procedures for skin cancer treatment increased by 13% to reach 2,321,058 in 2012.
- Outcomes (CSCC)
 - Approximately 4% of cases develop nodal metastasis
 - Regional metastasis vs. Distant metastasis 5-year survival: 83% vs. 11%

Estimated health burden of CSCC in Caucasians, 2012	
Number of new diagnoses	186,157–419,843
Tumor related deaths	3,932–8,791

Melanoma, 2020
100,350
6,850

Oral & pharyngeal Cancer, 2020
53,260
10,750

NMSCs are Not Created Equally: stratify tumor by risk of recurrence



BCC: Features associated with risk for local recurrence

	Low risk	High risk
Location and size	< 20mm in diameter on the trunk or extremities, excluding genitalia, pretibial,	• Tumors of any size on the head, neck, hands, feet, pretibia, and anogenital areas • Tumors $\geq$ 20mm in diameter on trunk and extremities, excluding hands and feet
Histology	• Growth pattern: • Nodular • Superficial • Infundibulocystic • Fibroepithelioma of pinkus • Lack of perineural invasion	• Aggressive features: micronodular, morpheaform, sclerosing, mixed infiltrative, basosquamous, or carcinosarcomatous • Perineural invasion
Other	• Primary lesion (not recurrent) • Well-defined clinical borders • No history of radiation therapy at site • Immunocompetent patient	• Recurrent lesions • Poorly defined clinical borders • Arising in prior radiation therapy field • Immunocompromised host

CSCC: Features associated with risk for local recurrence and metastasis

	Low risk	High risk	Very high risk
Anatomic location	Trunk or extremities	Lesions of any size on head, neck, hands, feet, pretibial, and anogenital area	
Tumor size	Lesions < 2cm (trunk, extremity)	Lesions 2-4cm (trunk extremity) Any size for high risk locations	Lesions > 4cm (any location)
Primary vs recurrence	Well-defined, primary tumor	Recurrent tumor	
Histologic features	- Well or moderately differentiated <2 mm in thickness - No invasion beyond subcutaneous fat, without perineural, lymphatic, or vascular invasion	Histologic features: - Acantholytic - Adenosquamous - Metaplastic - Peri-neural invasion	- Poorly differentiated tumor - Desmoplastic CSCC > 6mm thickness or invasion beyond the subcutaneous fat - Peri-neural invasion of a nerve lying deeper than the dermis or >0.1mm - Lymphatic or vascular involvement
Host	Immunocompetent	Immunosuppressed; genetic predisposition	

Increased risk of local recurrence

Increased risk of metastasis

Treatment Modalities for Cutaneous NMSCs

- Local destructive therapies
 - Electrodesiccation and curettage
 - Cryotherapy
 - Photodynamic therapy
- Topical chemotherapeutic agents
- Surgery
 - Wide local excision
 - Mohs micrographic surgery
- Radiation
 - External beam radiation therapy
 - Superficial radiation i.e., electronic brachytherapy
- Systemic therapy
 - Immune checkpoint inhibitor
 - Chemotherapy
 - Targeted therapies
 - Hedgehog inhibitor
 - Cetuximab

Choice of treatment is based on following considerations:

- Risk of tumor recurrence
- Efficacy of treatment modality
- Associated morbidity
- Patient preferences

Low risk CSCC, BCC

Appropriate candidate for surgery?

YES

- Surgery

Are margins clear?

YES

Clinical follow up

NO

- Further surgery, if feasible
- Adjuvant radiation therapy

NO

- Curettage and electrodesiccation
- Cryotherapy
- Topical therapies
- Radiation therapy

High risk CSCC, BCC

Appropriate candidate for surgery?

YES

- Mohs surgery
- Surgical excision with PDEMA
- Surgical excision with wide margins

Are margins clear?

YES

Consider **adjuvant radiation** for tumors meeting high risk criteria

NO

- Further surgery, if feasible
- **Adjuvant radiation** therapy
- Systemic therapy

NO

- **Definitive radiation therapy**
- Systemic therapy
 - Immune checkpoint inhibitor
 - Chemotherapy
 - Targeted therapy

Clinical Cases in which Radiation Therapy May be Appropriate

- Radiation reduces recurrence rates in conjunction with surgery
 - Adjuvant therapy after surgery
 - High risk CSCC, surgical margins clear
 - Low or high risk CSCC, surgical margins positive
- When surgery is not feasible
 - Primary definitive radiation therapy
 - Low or high risk NMSC

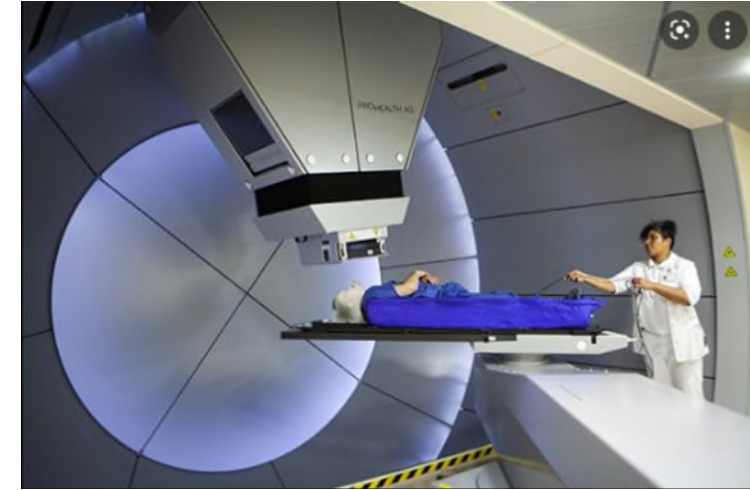
Reasons why surgery may not be feasible:

- Loss of function
- Significant morbidity
- Poor cosmesis in anatomically sensitive areas
- Patient refuses surgery

Radiation Discussion

Radiation Modalities

- Superficial/orthovoltage units
- Linear Accelerators
- Brachytherapy



Multiple Radiation Techniques



**Superficial /
Orthovoltage X-rays**



Electrons



Photons / IMRT



Brachytherapy

Delivery

Low-energy X-rays

LINAC electron beam

LINAC photon beams

Radiation source placed
in/on tumor

Best suited for

**Small, superficial
lesions**

**Superficial lesions /
larger fields**

**Deep or complex
disease**

**Small lesions / curved
surfaces**

Typical use

BCC/SCC of skin

Primary skin lesions,
surgical beds

Deep invasion, PNI,
nodal coverage

Nose, ear, lip, other
selected sites

Key advantage

Rapid dose falloff, low
cost/complexity

Adjustable treatment
depth

Conformal treatment of
complex anatomy

Very rapid dose falloff

Limitation

Limited depth

Irregular surfaces /
lateral penumbra

More normal tissue
exposed; requires bolus
for skin

Limited availability,
invasive

Indications for Definitive Radiation

Radiation Therapy for Non-Melanoma Skin Cancers Appropriate Use Criteria

- Multidisciplinary approach
- Medically inoperable or decline surgery
- Locally advanced/unresectable
- Sensitive location where function or cosmesis may be compromised (eyelid, ears, nose, lips)
- Older adults

1. Advanced age and frail (>75 y.o.)
2. Disabled
 - a. In Wheelchair
 - b. Unable to get on surgical table.
 - c. Unable to be off oxygen during surgery (cannot use cautery while oxygen is on)
3. Surgery may result in chronic nonhealing wound.
 - a. Lower leg
 - b. Hand
 - c. Diabetic patient
 - d. Other _____
4. Surgery is contraindicated because of potentially poor cosmetic results or functional impairment.
 - a. Eyelid (ectropion)
 - b. Ear (amputation)
 - c. Nose (aerodynamic compromise)
 - d. Hand/Foot (Nerve/Tendon injury)
 - e. Lip
5. Medical Contradictions
 - a. Presence of blood borne transmittable disease (Hep C and HIV) or h/o MRSA infection.
 - b. On numerous blood thinners and/or has pacemaker/defibrillator. Other causes of abnormal bleeding (Thrombocytopenia, Ibrutinib, Von Willebrand disease, etc.)
 - c. Immunosuppression (transplant, lupus, HIV etc.) – to decrease risk of recurrence.
 - d. Patients on Chemotherapy or have Metastatic Cancer (too frail for surgery, increased risk for infections and complications.
6. Indications for adjuvant radiation therapy after Moh's surgery.
 - a. Perineural involvement (high risk for recurrence and metastasis)
 - b. Questionable clear margins or unable to remove tumor surgically.
7. Patient/Legal guardian (POA) does not want or refuses surgical treatment.

Outcomes with RT are good for early stage tumors

Summary of Reported Studies	Low Risk Tumors Local Control	High Risk Tumors Local Control
Surgical Excision with Post-Operative Margin Assessment	90-95%	83-88%
Mohs Micrographic Surgery	99%	90-94%
Radiation Therapy	90-96%	80-88%

Evidence-Based Guidelines for Definitive Radiation Therapy (RT)

- ASTRO convened a task force to evaluate this question and found:
 - Limited, well-conducted and randomized studies for the treatment of SCC and BCC with RT
 - Most studies are limited to H&N region
 - Definitive RT is an effective modality for the local control of BCC and SCC with the caveat that the RT approach has not been well examined in prospective randomized trials comparing surgery with RT
 - Retrospective and single-arm prospective studies show that definitive RT is associated with high local control rates

External Beam

- Numerous retrospective series
- LR at 5 year < 10%

Study	CEBM level of evidence	n	Technique, energy	Total dose (Gy)	Gy/fraction	Mean FU (mo)	LR 1y (%)	LR 5y (%)	OS	Cosmesis rating (%)		
										Good	Fair	Poor
Abbatucci (1988)	2b	675	Muller RT 100, 1000R/min	31	10.2	24	1	5.3	NR	47.5	50.1	2.4
Avril (1997)	1b	20	85–250 kV	60–65	2–4	41	1.2	7.5	72.6	76	20	3
Caccialanza (2005)	2b	110	55–120 kV	45–70	5	28.8	NR	10.4	98.2	74.8	13.5	1.8
Caccialanza (2009)	2b	671	55–120 kV	30–75 60 + 23	5 2 + 5	38 38	2.5	5.7	NR	74.5	22.4	2.4
Lovett (1990)	2b	325	kV, MV, and MeV	40–60	1–4	24	NR	14	NR	88.3	3.0	6.8
Mazeron (1989)	2b	71 639	MV, MeV, Co-60 ~100 kV	30.6–70	2–10.2	>24	19 ^a 4.8 ^a	NR NR	NR NR	52 61	37 22	11 17
Van Hezewijk (2010)	2b	159 275	4–12 MeV	54 44	3 4	42.8 42.8	1.5 2	2.5 3.9	NR NR	62 67	13 33	25 0
Ashby (2001)	2b	360	5–7 MeV, MV	24	6	12	0.7	4.3	98.9	NR	NR	NR
Chan (2007)	2b	464 499	45–100 kV	22.5 20	22.5 20	18 18	1 3	8 10	NR NR	NR NR	NR NR	NR NR
Cognetta (2012)	2b	1715	80 kV	35	7	31.5	1.1	5	NR	NR	NR	NR
Hernandez (2007)	2b	710	14–50 kV	45–56 36	4 9	12	1.9	5.9	NR	NR	NR	NR
Hall (1986)	2c	19 30	130 kV	35 38	7 3.8	12 24	0 6.7	NR	NR	NR	NR	NR
Grossi Marconi (2016)	2b	521 500	80–200 kV	50 55 60	3 3 2	44 44	NR	0.8 2.7	NR NR	NR NR	NR NR	NR NR
Pampena (2015)	2b	275 161	50–300 kV	37 45	5 3	30.4 34.3	1.1 1.2	5.5 3.7	69.5 83.9	NR NR	NR NR	NR NR
Schulte (2005)	2b	1019 245	10–100 kV	45 60	5 5	77	NR NR	4.5 6.9	74.4 57.1	NR NR	NR NR	NR NR
Silva (2000)	2b	47 123 68 41	100–250 kV, MV MeV, Co-60	18–20 35 43–45 50–65	18–20 7 4–5 2–3	40	6.2	21.8	63.8	NR	NR	NR
Tsao (2002)	2b	34 20 10 11	75–250 kV, 9–20 MeV	35 45 50 20	7 5 3 20	35	5	15	58	NR	NR	NR
Zagrodnik (2003)	2b	148	20–50 kV	40–48 40–52 52–60	8 4 2	48	6.4	15.8	NR	NR	NR	NR

External Beam

- 173 patients
- BCC 4 cm or smaller of the face
- 4-yr local failure 0.7% (surgery) vs 7.5% (RT)

Basal cell carcinoma of the face: surgery or radiotherapy? Results of a randomized study

M-F Avril¹, A Auperin², A Margulis³, A Gerbaulet⁴, P Duvillard⁵, E Benhamou², J-C Guillaume⁶, R Chalon¹, J-Y Petit⁷, H Sancho-Garnier⁸, M Prade⁵, J Bouzy² and D Chassagne⁴

¹Service de dermatologie, Institut Gustave Roussy, rue Camille Desmoulins, 94805 Villejuif Cedex, France; ²Départements de ²biostatistique et d'épidémiologie, ³chirurgie générale, ⁴radiothérapie and ⁵anatomopathologie, Institut Gustave Roussy, rue Camille Desmoulins, 94805 Villejuif Cedex, France; ⁶Service de dermatologie, Centre Hospitalier Louis Pasteur, 68021 Colmar Cedex, France; ⁷Service de chirurgie plastique, Institut Européen d'Oncologie, Via Ripamonti 435, 20141 Milan, Italie; ⁸Epidaure, Parc Euromédecine, 34298 Montpellier Cedex 5, France

Limitations:

- Study started in 1982
- 91% of surgery patients underwent frozen sections intra-op (39% required additional resection)
- More than half of RT was performed with brachytherapy (device sutured to the lesion, hospitalized for ~7 days)

Evidence-Based Guidelines for Superficial Radiation Therapy (SRT)

- SRT has been used for > 100 years to treat cutaneous malignancies, however usage has decreased over time. Education around this treatment modality is no longer standardized in dermatology residency training programs and there is no ACGME-requirement for either didactics or clinical experience in SRT.
- In the past 15 years, newer SRT technologies have emerged and are being practiced within dermatology offices, represent the bulk of claims being submitted for SRT

SRT

Report	Study design	Recurrence rate	Limitations
Cognetta AB, Howard BM, Heaton HP, Stoddard ER, Hong HG, Green WH. Superficial x-ray in the treatment of basal and squamous cell carcinomas: a viable option in select patients. <i>J Am Acad Dermatol</i> . 2012;67(6):1235-1241.	Retrospective review of 1715 cases of BCC and SCC treated with SRT	2yr: 1.9% 5yr: 5.0%	Retrospective
Schulte KW, Lippold A, Auras C, et al. Soft x-ray therapy for cutaneous basal cell and squamous cell carcinomas. <i>J Am Acad Dermatol</i> . 2005;53(6):993-1001.	Retrospective review of 1267 cases of BCC and SCC treated with SRT	5yr: 5.1%	Retrospective
Zagrodnik B, Kempf W, Seifert B, et al. Superficial radiotherapy for patients with basal cell carcinoma: recurrence rates, histologic subtypes, and expression of p53 and Bcl-2. <i>Cancer</i> . 2003;98(12):2708-2714.	Retrospective review of 48 patients with BCC treated with SRT (including sclerosing)	5yr: 15.8%	Retrospective
Barysch MJ, Eggmann N, Beyeler M, Panizzon RG, Seifert B, Dummer R. Long-term recurrence rate of large and difficult to treat cutaneous squamous cell carcinomas after superficial radiotherapy. <i>Dermatology</i> . 2012;224(1):59-65.	Retrospective review of 180 large SCCs (mean tumor size 3.5cm) treated with SRT	1yr: 4.2% 10yr: 19.6%	Retrospective

Evidence-Based Guidelines for Electronic Brachytherapy (EBT)

Report	Study design	Recurrence rate	Limitations
Bhatnagar A, Patel R, Werschler WP, Ceilley RI, Strimling R. High-dose rate electronic brachytherapy: a nonsurgical treatment alternative for nonmelanoma skin cancer. J Clin Aesthet Dermatol. 2016;9(11):16-22.	Pooled analysis of 1259 patients with BCC or SCC (<2cm) from 6 publications treated from 2009-2014. Patients received 40-45Gy using 3-8 fractions	3yr: 0.97%	Retrospective; more than 50% of patients were lost to follow up
Doggett SW, Willoughby M, Miller KA, Mafong E. Long-term clinical outcomes of non-melanoma skin cancer patients treated with electronic brachytherapy. JContemp Brachytherapy. 2023;15(1):9-14.	Retrospective chart review of 183 patients with AJCC stage 1 BCC, SCC, or SCC-IS	5yr: 1.1%	Retrospective; more than 50% of patients were lost to follow up
Patel R, Strimling R, Doggett S, et al. Comparison of electronic brachytherapy and Mohs micrographic surgery for the treatment of early-stage non-melanoma skin cancer: a matched pair cohort study. JContemp Brachytherapy. 2017;9(4):338-344.	Matched pair cohort study of 369 patients – 188 received EBT, 181 received MMS	No difference in rates of recurrence were noted with similar cosmetic outcomes	Patients receiving EBT had lower risk skin cancers than MMS, so no meaningful conclusion can be derived about comparison

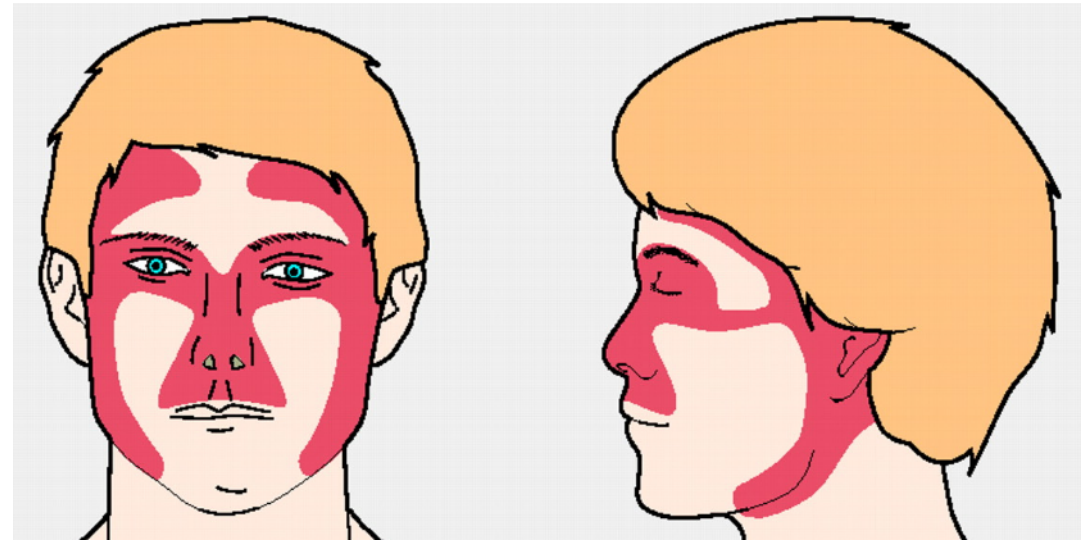
Image-guidance in RT (IGRT)

- Generally indicated for deep targets, but recent interest in “IGRT” for superficial RT with ultrasound
- Proponents cite a retrospective study (industry sponsored) showing 99.3% local control rates for 2917 lesions treated. About half were SCC/BCC with more than 12 months follow-up
- A Medicare analysis suggested that >\$29 M was billed for image guidance in 2022 by dermatologists for SRT with limited dosimetric adjustments made
- 2023-2024: ASTRO petitioned for limited billing of US-guided SRT given limited evidence and different levels of work in IGRT utilized
- 2026: CMS created a new code (77439) utilized once per course. Several LCDs were published suggesting it was not medically necessary for routine cases.

Indications for Adjuvant Radiation (NCCN)

NCCN high or very high risk:

- Close or positive margins that cannot be cleared surgically
- Clinically or radiographically apparent perineural invasion (PNI)
- Recurrent SCC s/p prior margin-negative resection
- pT3-4
- Poor location (Area H)
- Immunosuppression
- Less data for adjuvant RT in the setting of BCC
 - Close/positive margins that cannot be cleared
 - Recurrence
 - Involving bone/muscle
 - PNI



Indications for Adjuvant Radiation (ASTRO Guidelines)

- Gross perineural spread
- Close or positive margins that cannot be re-excised
- cSCC
 - T3-T4 tumors
 - Desmoplastic or infiltrative tumors in the setting of chronic immunosuppression
- BCC
 - Infiltrating bone or muscle

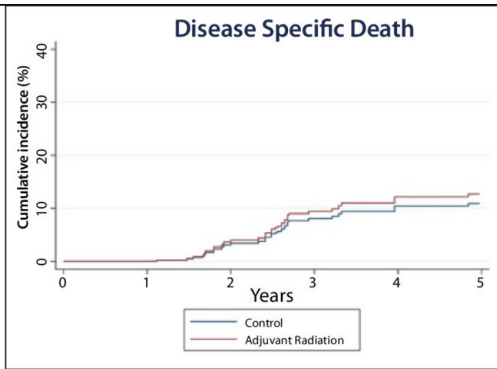
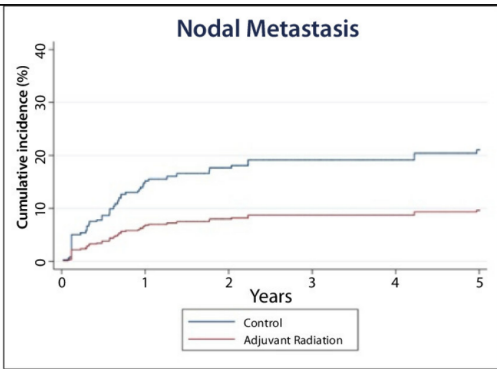
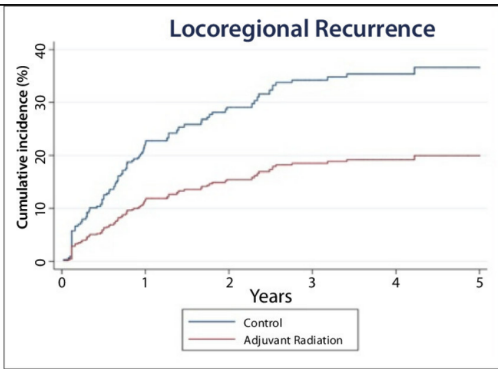
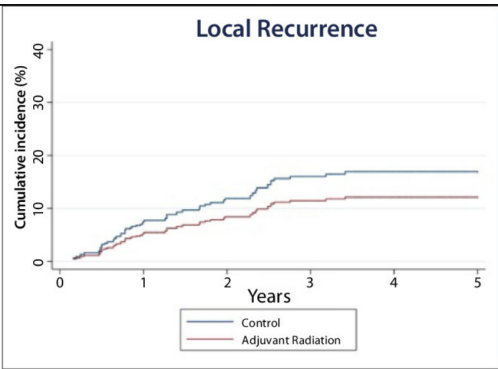
Tumor Staging System	Definition
AJCC 8th Edition	
T1	<2 cm in greatest diameter
T2	≥2 cm, but <4 cm in greatest diameter
T3	Tumor ≥4 cm in greatest diameter or minor bone invasion or perineural invasion or deep invasion ^a
T4a	Tumor with gross cortical bone and/or marrow invasion
T4b	Tumor with skull bone invasion and/or skull base foramen involvement

Indications for Adjuvant Radiation (BWH)

- Multi-center retrospective data study of 1267 high risk SCC (AJCC T3-4, BWH T2b-T3)
- Adjuvant RT associated with **50% reduction** in local recurrence and nodal metastasis
 - LRR 17.8% vs 9.0%
- In a higher-risk subset (3-4 high risk features or LVI), **5-year LRR decreased from 36.6% to 20.0%**

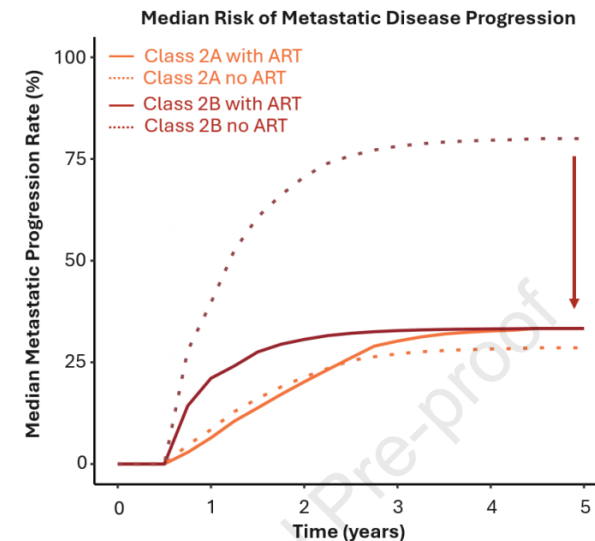
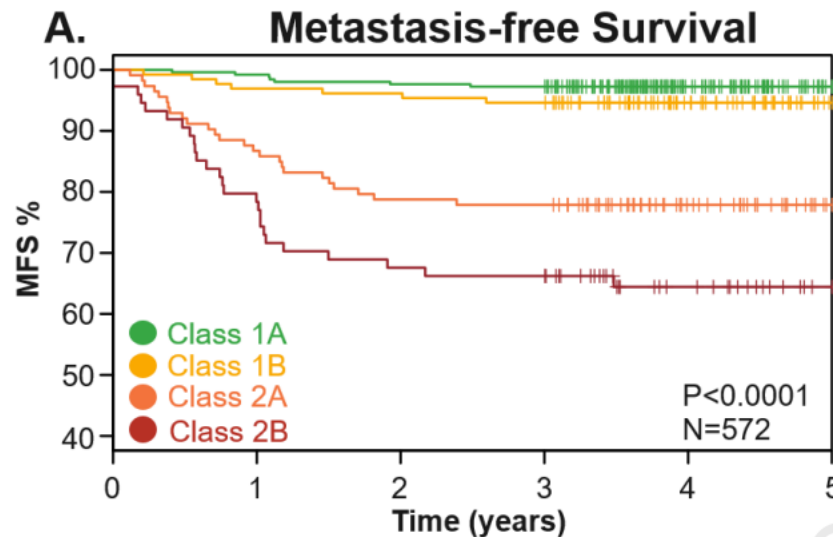
BWH	
T1	0 High-risk factors ^b
T2a	1 High-risk factor
T2b	2-3 High-risk factors
T3	4 High-risk factors or bone invasion

- BWH High-risk factors:
- Tumor $\geq 2\text{cm}$
 - Poorly differentiated
 - PNI $\geq 0.1\text{ mm}$ in caliber
 - Tumor invasion beyond subcutaneous fat

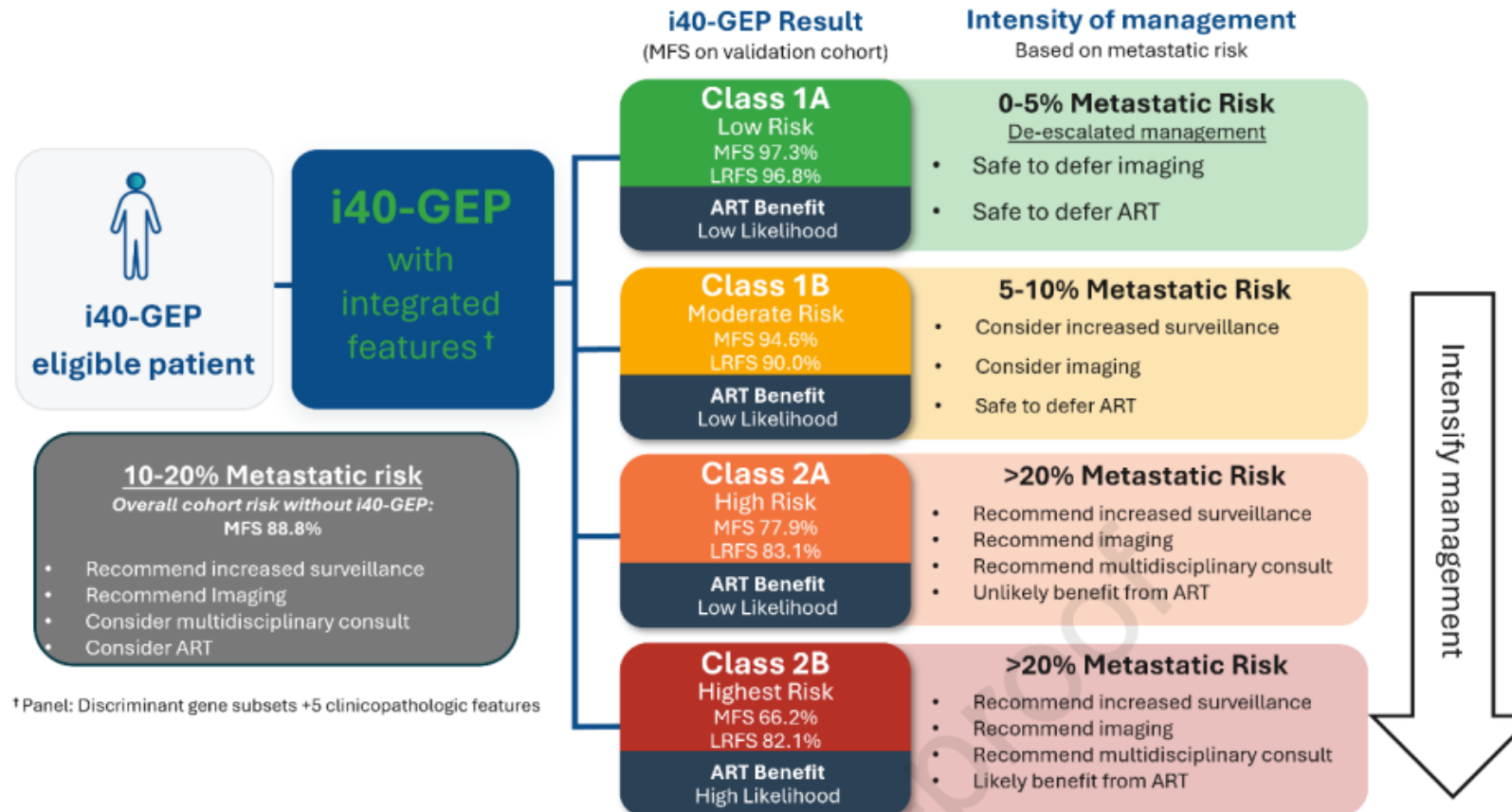


Indications for Adjuvant Radiation (Molecular testing?)

- 40-gene expression profile test (DecisionDX-SCC) integrated with 5 clinicopathologic factors (immunosuppression, diameter, differentiation, PNI, and anatomic site) is prognostic
- Retrospective review of 572 patients (70.6% NCCN-HR, 27.5% NCCN-VHR)

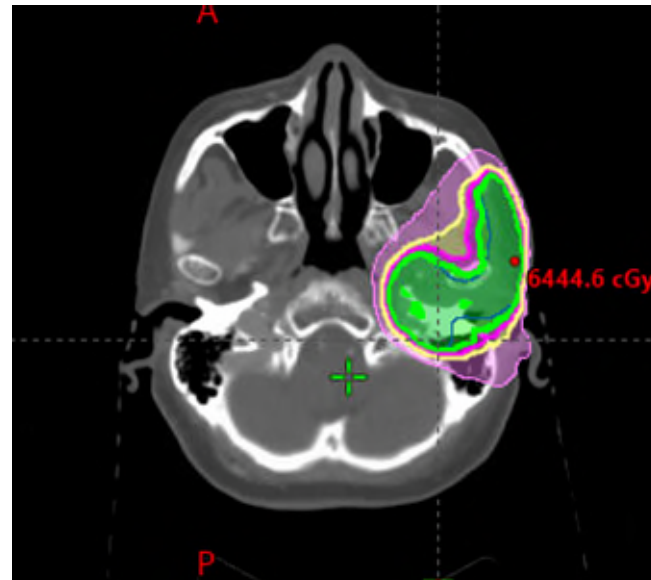
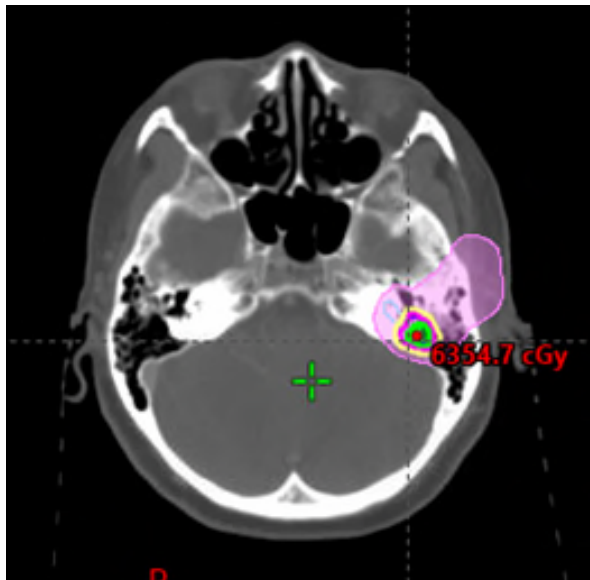
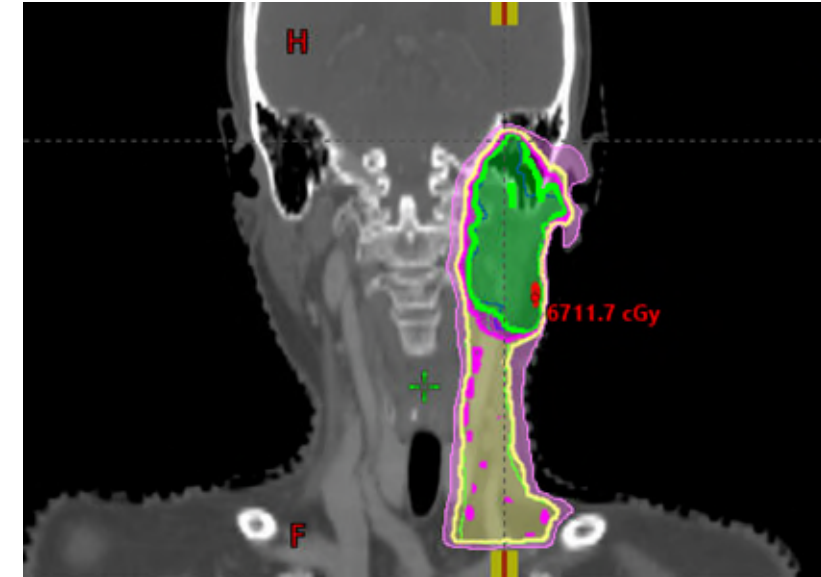


Indications for Adjuvant Radiation (Molecular testing?)



PNI and Radiation Targets

- For clinical or radiographic PNI – cover the named nerve to the base of skull
- For microscopic PNI – do not need to chase to base of skull



Management of Lymph Nodes

- Elective nodal radiation debated – may consider if operative bed is adjacent to a nodal level
- In the setting of N+
 - Resection followed by radiation for multiple nodes, single node > 3 cm, and/or extranodal extension
 - Inoperable -> definitive radiation (chemo?)

Interpreting pathology after induction Cemiplimab

- Multicenter phase II study of 79 patients with resectable cSCC
- 4 cycles neoadjuvant cemiplimab q3 weeks → surgery → investigator discretion observation, radiation, or adjuvant cemiplimab
- 40 patients had a pathologic complete response to immunotherapy

	Patients with a pathological complete response* (n=40)	Patients with a major pathological response† (n=10)	Patients with a pathological partial response (n=7)	Patients with no response‡ (n=13)
Cemiplimab	12 (30%)	1 (10%)	2 (29%)	1 (8%)
Radiotherapy	1 (3%)	5 (50%)	3 (43%)	8 (62%)
Observation	24 (60%)	3 (30%)	2 (29%)	3 (23%)

	All patients who received neoadjuvant cemiplimab (n=79)	Patients with pathological complete response (n=40)	Patients with major pathological response (n=10)	Patients with pathological partial response (n=7)	Patients with no response or not evaluable (n=22)
Median (95% CI) event-free survival, months	NR (NE-NE)	NR (NE-NE)	NR (8-3-NE)	NR (NE-NE)	25 (8-NE)
12-month event-free survival, % (95% CI)	89% (79-94)	95% (81-99)	89% (43-98)	100% (NE-NE)	72% (44-88)
Number of events	11 (14%)	3 (8%)	1 (10%)	0	7 (32%)
Progressive disease that precludes surgery	2 (3%)	0	0	0	2 (9%)
Disease recurrence	3 (4%)	0	1 (10%)*	0	2 (9%)†
Death	6 (8%)	3 (8%)	0	0	3 (14%)
Number of censored patients	68 (86%)	37 (93%)	9 (90%)	7 (100%)	15 (68%)

Still investigational, but early data is provocative
Increases need for adjuvant immunotherapy

Case 1

- 95-year-old woman with a history of multiple non-melanoma skin cancers, more than 10+ treatments with Mohs surgery, presents with a new bleeding papule on the right side of her nose.
- Biopsy shows a nodular BCC
- Patient declines additional surgery due to surgery fatigue.



Case 2

- July 2024: Left cheek lesion – shave biopsy – SCC
- Oct 2024: Radiation 15 fractions for total of 45 Gy
- Jan 2025: shave biopsy – SCC
- Feb 2025: wide local skin excision – positive margins
- Mar 2025: Repeat wide local excision – positive deep margin





- Wide local excision, rhomboid rotational flap

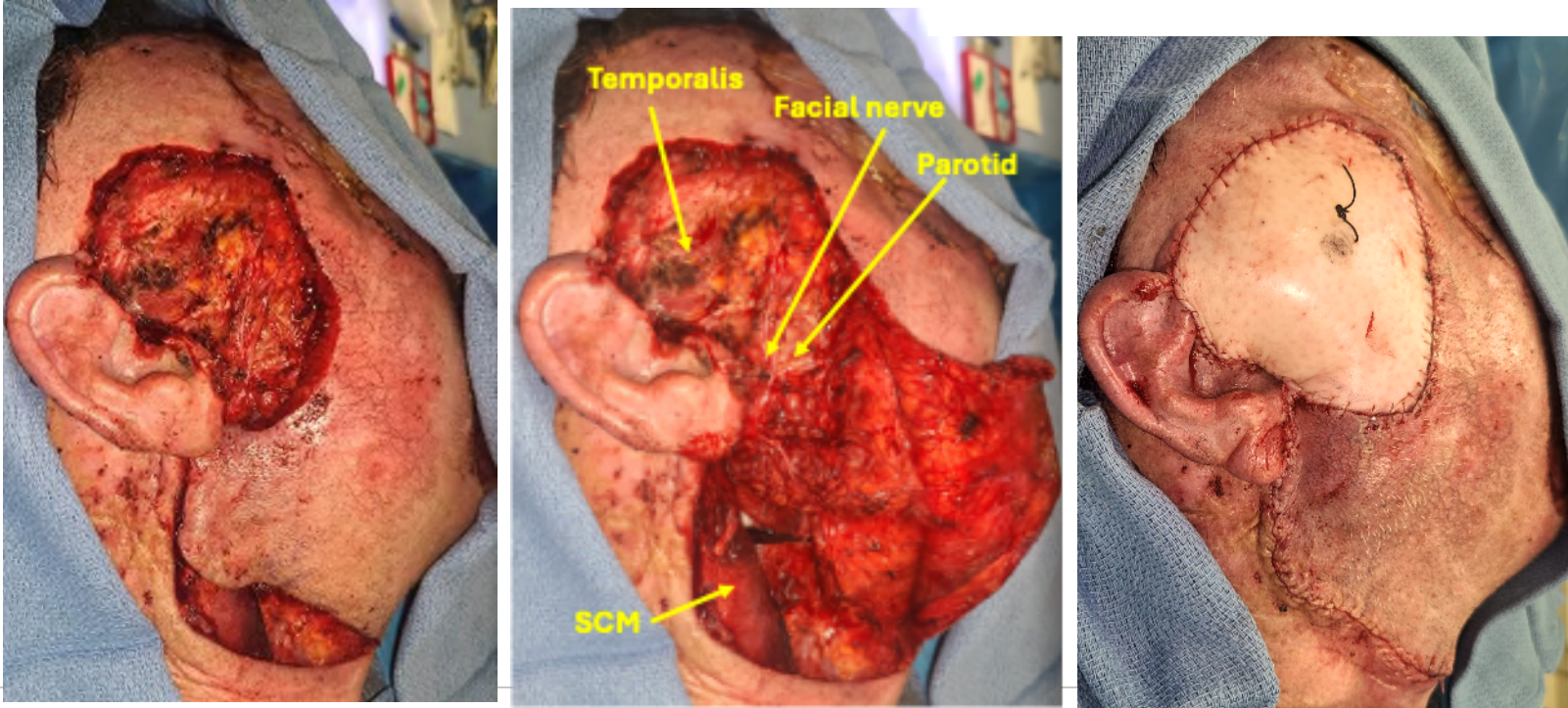
NCCN Guidelines - SCC

- Final pathology:
 - 1 x 1 cm residual tumor
 - Negative margins
 - Moderately to poorly differentiated
 - Invasion of subcutaneous adipose tissue and skeletal muscle – depth 9 mm
 - Perineural invasion
- Adjuvant treatment?
 - Radiation alone
 - Concurrent Chemoradiation
 - Concurrent Radiation + Immunotherapy
 - Radiation followed by Immunotherapy

STRATIFICATION TO DETERMINE TREATMENT OPTIONS AND FOLLOW-UP FOR LOCAL CSCC BASED ON RISK FACTORS FOR LOCAL RECURRENCE, METASTASES, OR DEATH FROM DISEASE	
Risk Group ^a	Very High Risk
Treatment options	SCC-4 and SCC-5
H&P	
Location/diameter (cm)	>4 cm (any location)
Clinical borders	
Primary vs. recurrent	
Immunosuppression	
Site of prior RT or chronic inflammation	
Rapidly growing tumor	
Neurologic symptoms	
Pathology (SCC-A)	
Degree of differentiation	Poor differentiated
Histologic subtype ^b	(+)
Depth ^{c,d} : Thickness or level of invasion	>6 mm or invasion beyond subcutaneous fat
Perineural involvement	Tumor cells within the nerve sheath of a nerve lying deeper than the dermis or measuring ≥0.1 mm
Lymphatic or vascular involvement	(+)

Case 3

- Right preauricular lesion – SCC
- April 2025 – Mohs resection – positive margins



- Wide local excision, parotidectomy, neck dissection, Anterolateral thigh free flap

NCCN Guidelines - SCC

- Final pathology:
 - 2.9 cm
 - depth 1.8 cm, invades conchal cartilage
 - Moderately to poorly differentiated
 - Perineural invasion present
 - 0/21 lymph nodes
- Adjuvant treatment?
 - Radiation alone
 - Concurrent Chemoradiation
 - Concurrent Radiation + Immunotherapy
 - Radiation followed by Immunotherapy

STRATIFICATION TO DETERMINE TREATMENT OPTIONS AND FOLLOW-UP FOR LOCAL CSCC BASED ON RISK FACTORS FOR LOCAL RECURRENCE, METASTASES, OR DEATH FROM DISEASE

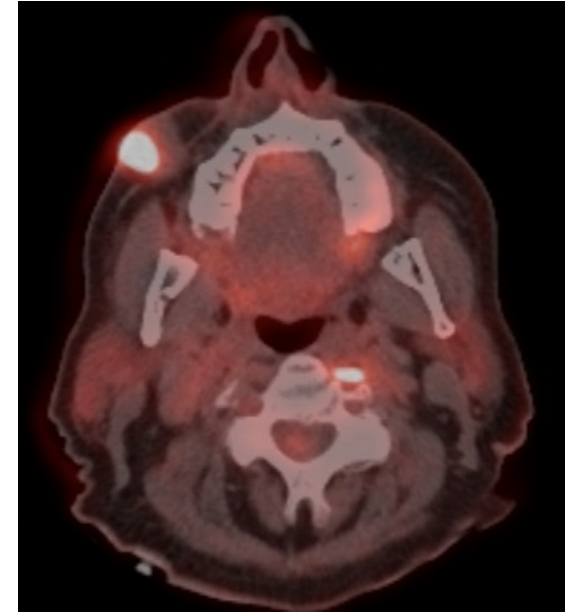
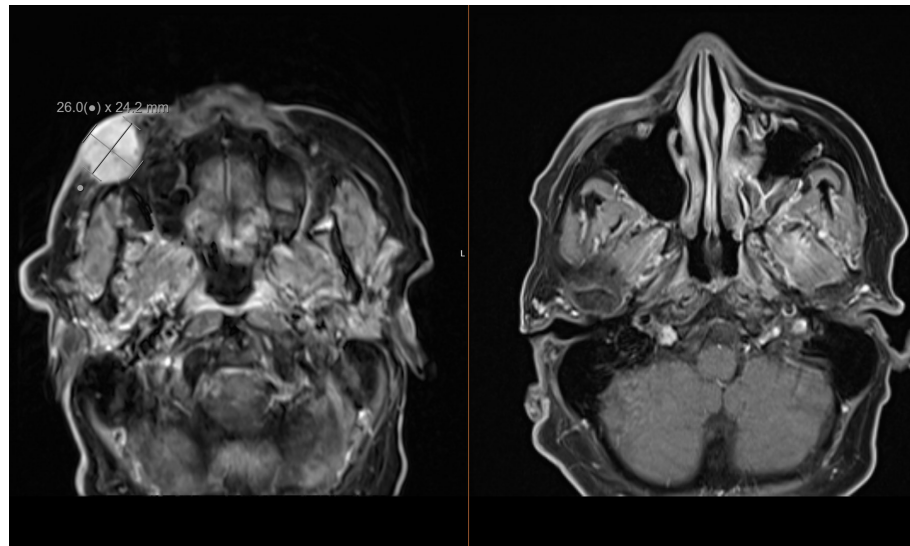
Risk Group ^a
Treatment options
H&P
Location/diameter (cm)
Clinical borders
Primary vs. recurrent
Immunosuppression
Site of prior RT or chronic inflammation
Rapidly growing tumor
Neurologic symptoms
Pathology (SCC-A)
Degree of differentiation
Histologic subtype ^b
Depth ^{c,d} : Thickness or level of invasion
Perineural involvement
Lymphatic or vascular involvement

Very High Risk
SCC-4 and SCC-5
>4 cm (any location)
Poor differentiated
(+)
>6 mm or invasion beyond subcutaneous fat
Tumor cells within the nerve sheath of a nerve lying deeper than the dermis or measuring ≥0.1 mm
(+)

Case 4



- 87 year old with hx coronary stent and DVT on eliquis
 - o 5 years ago SCC of the right cheek excised
 - o 2 years of right cheek numbness
 - o Biopsy proven SCC with focal ACC

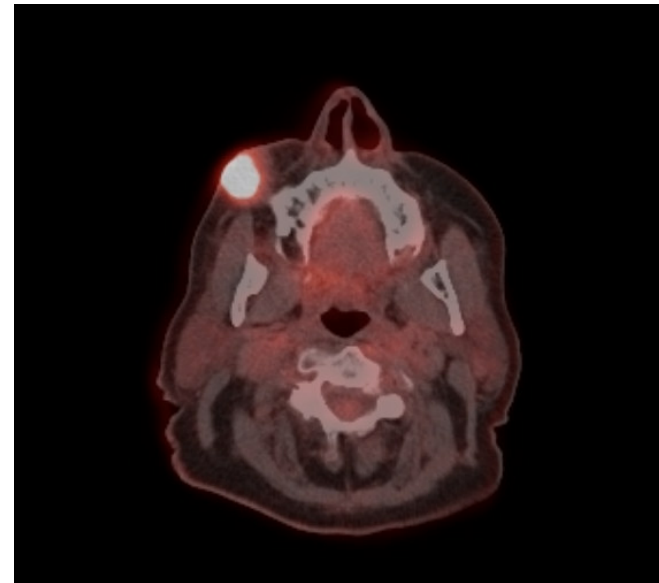
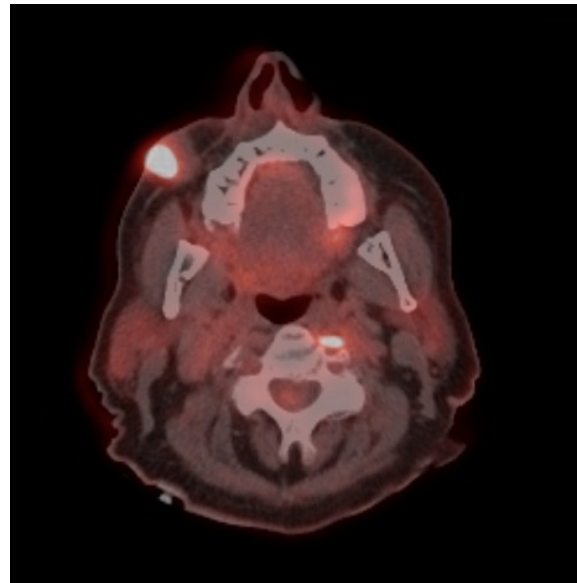


Asymmetric enlargement and enhancement of the right infraorbital nerve extending back to foramen rotundum without abnormal enhancement and Meckel's cave or the cisternal trigeminal nerve

Case 4

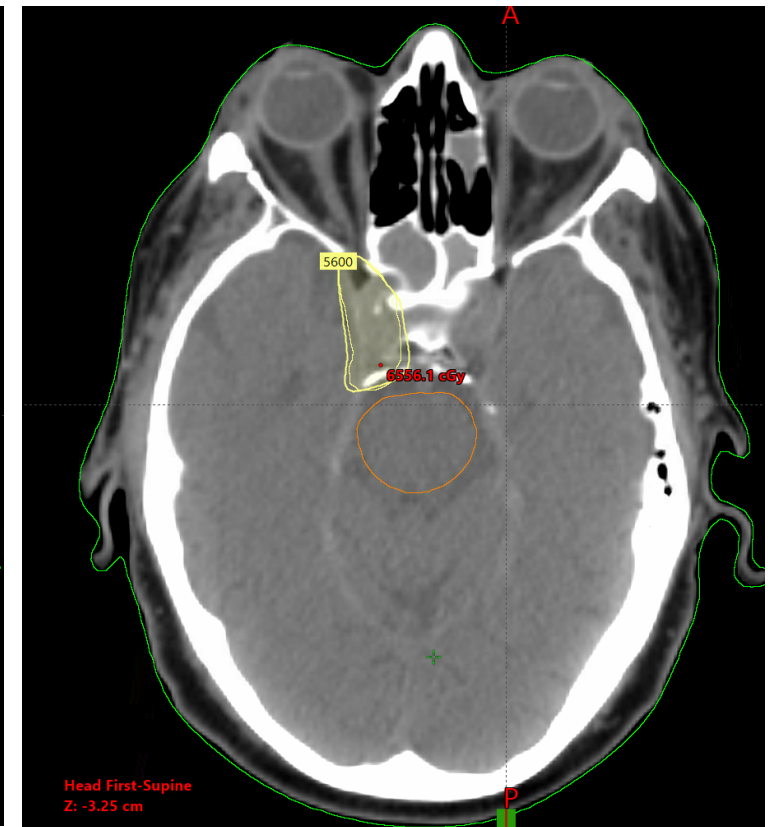
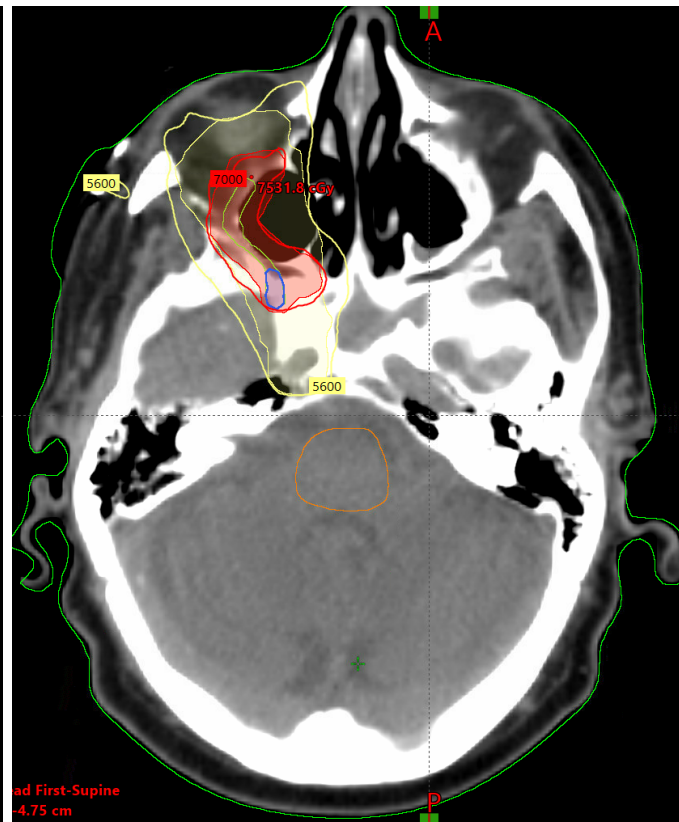
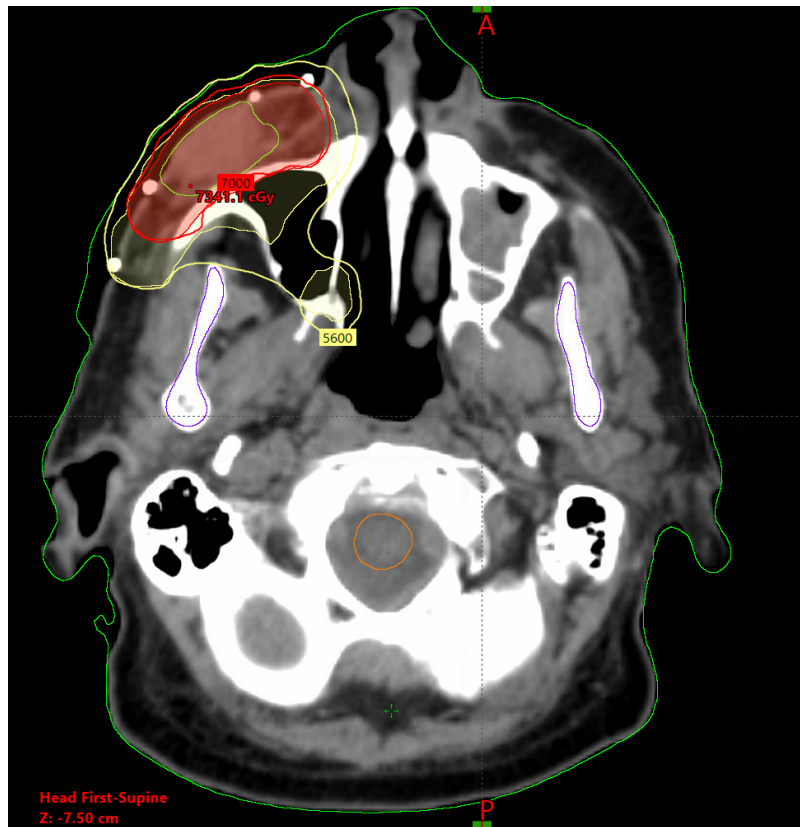


- 87 year old with recurrent right cheek SCC with focal ACC with perineural spread
 - Received 5 cycles neoadjuvant cemiplimab
 - Subsequent PET showed increased avidity in the tumor (no response)



Case 4

- Treatment: Definitive radiation: 70gy/35 fractions with photon therapy/IMRT



Case 4: Treatment Toxicities and Outcome

Week 1



Week 2



Week 3



Week 4



Week 5



Week 6



Week 7



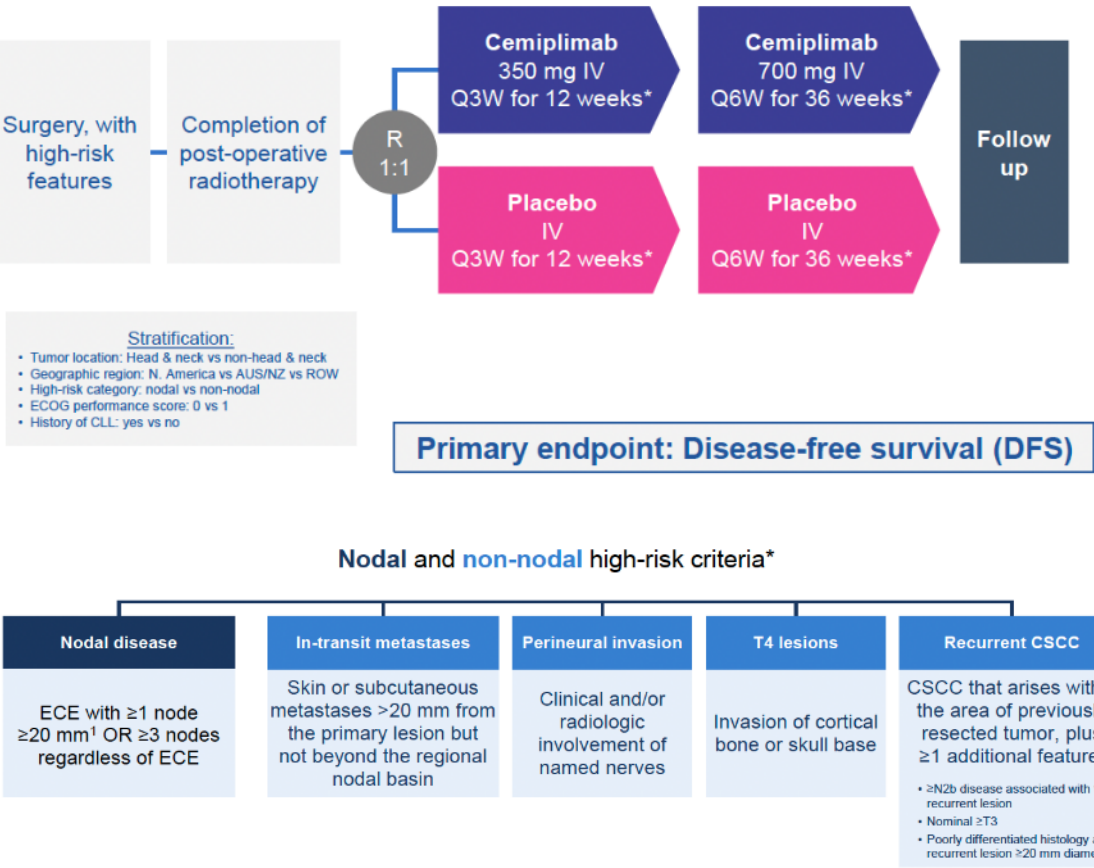
6 month followup



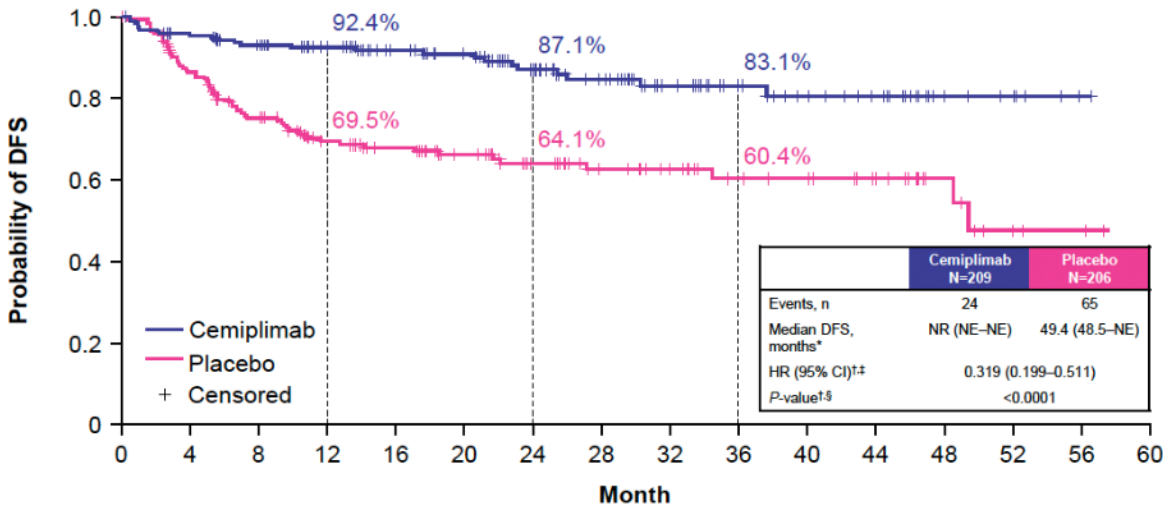
Adjuvant Cemiplimab or Placebo in High-Risk Cutaneous Squamous-Cell Carcinoma

Authors: Danny Rischin, M.D., Sandro Porceddu, M.D., Fiona Day, M.B., B.S., Ph.D., Daniel P. Brungs, M.B., B.S., M.Med., Ph.D., Hayden Christie, M.B., B.S., James E. Jackson, M.B., B.S., Ph.D., Brian N. Stein, M.B., B.S., ⁺³⁹, for the C-POST Trial Investigators* [Author Info & Affiliations](#)

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Disease-free survival



No. of patients at risk:																
Cemiplimab	209	172	157	132	116	104	83	66	47	33	27	22	9	6	1	0
Placebo	206	161	130	94	82	69	53	42	36	26	24	18	10	4	2	0

Questions

Sean Maroongroge MD
smaroongroge@coh.org

Badri Modi MD
bamodi@coh.org

Krupal Patel MD
kruppatel@coh.org

Arya Amini MD
aamini@coh.org