

Reconstruction following Mohs Surgery & Cutaneous Oncology updates

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Disclosures

Serving as a consultant for:

- **Regeneron**
- **Castle Biosciences**
- **Sun pharma**
- **Replimune**

Act I

Reconstruction of multi-subunit defects following Mohs Micrographic Surgery

multi subunit defects



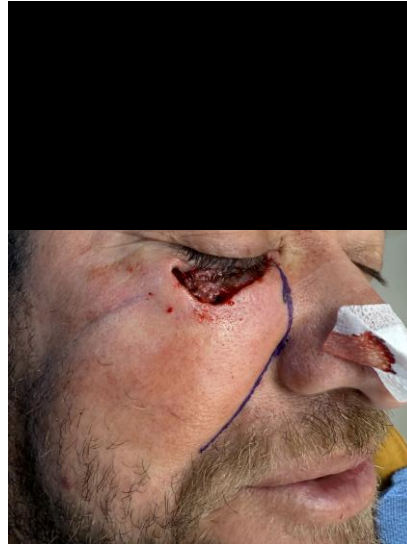
Reconstruction thought process

FUNCTION



Reconstruction thought process

Free Margins



Reconstruction thought process

Contour, Color, and Texture Match



Reconstruction thought process

Contour, Color, and Texture Match



Case 1: BCC of the R eyebrow s/p 4 stages



Subunits involved:

- R upper eyelid
- R eyebrow
- R forehead
- R medial canthus
- R nasal root

Case 1: BCC of the R eyebrow s/p 4 stages



Case 1: BCC of the R eyebrow s/p 4 stages



Case 1: BCC of the R eyebrow s/p 4 stages



Case 1: BCC of the R eyebrow s/p 4 stages



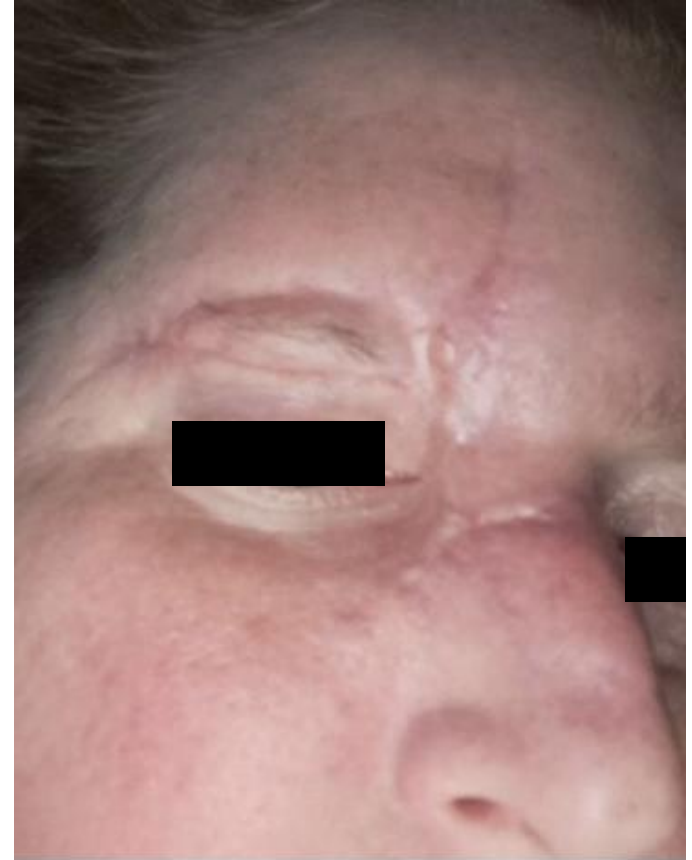
Case 1: BCC of the R eyebrow s/p 4 stages



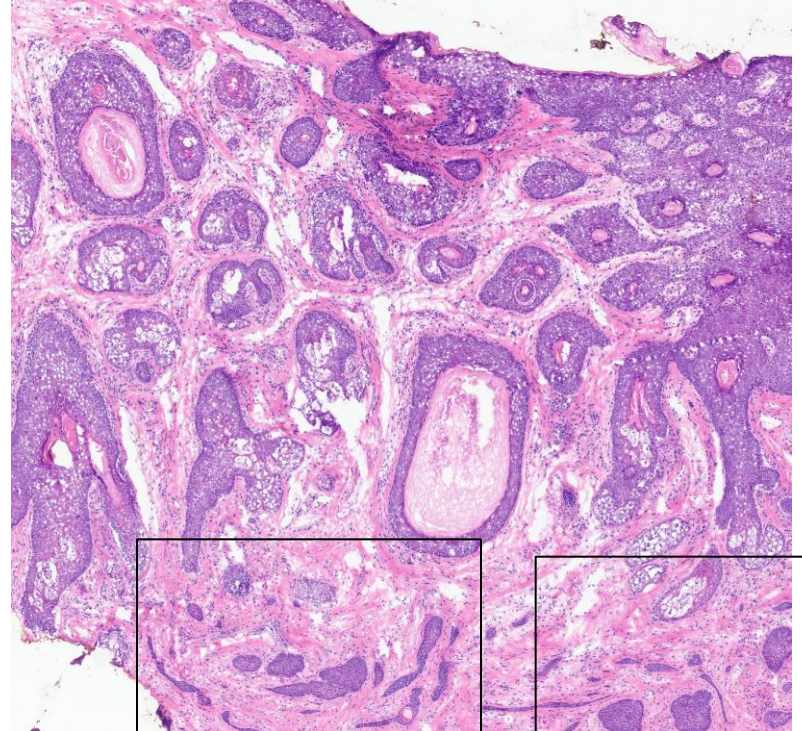
Case 1: BCC of the R eyebrow s/p 4 stages



4 months post-op



Case 2: MAC of the R cutaneous upper lip s/p 6 stages



Case 2: MAC of the R cutaneous upper lip



Subunits involved:

- **R upper cutaneous lip**
- **R Cheek**
- **R nasal ala**

Case 2: MAC of the R cutaneous upper lip



Case 2: MAC of the R cutaneous upper lip



Case 2: MAC of the R cutaneous upper lip



Case 2: MAC of the R cutaneous upper lip

6 months post-op



Case 3: pigmented BCC of the R Cheek/R Lower eyelid



Subunits involved:

- R lower eyelid
- R nasal sidewall
- R cheek
- R upper cut lip

Case 3: pigmented BCC of the R Cheek/Lower eyelid



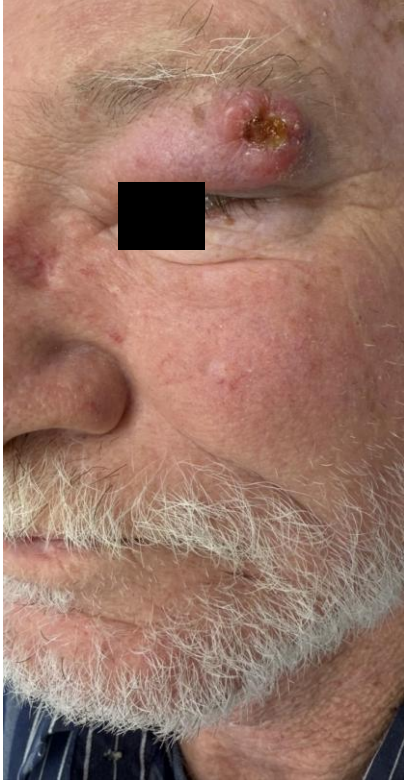
Case 3: pigmented BCC of the R Cheek/Lower eyelid



Case 3: pigmented BCC of the R Cheek/Lower eyelid



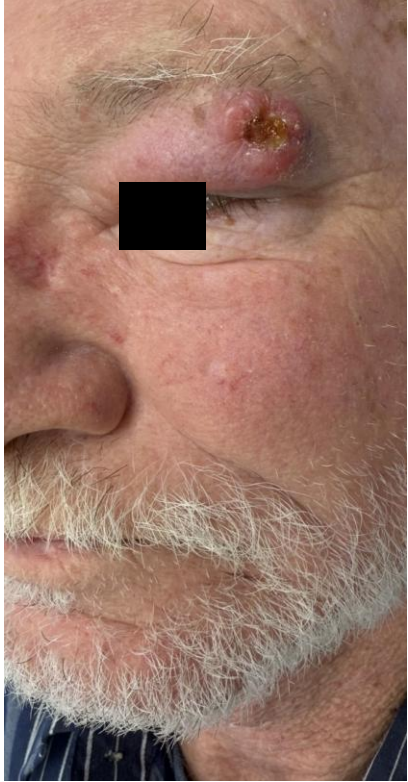
Case 4: SCC of the L upper eyelid



Subunits involved:

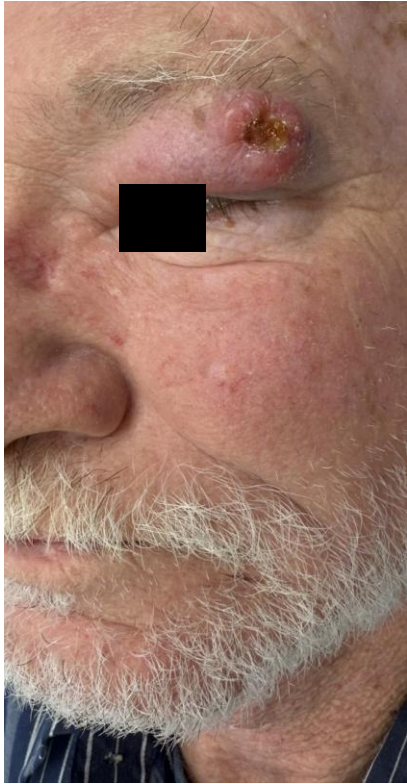
- **L upper eyelid**
- **L eyebrow**

Case 4: SCC of the L upper eyelid

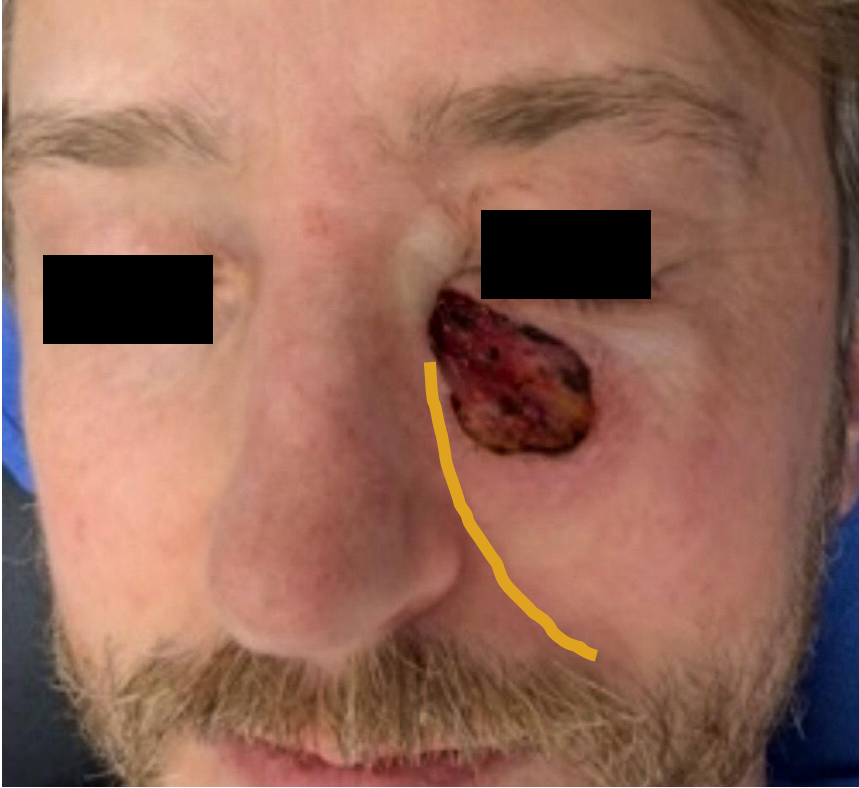


Case 4: SCC of the L upper eyelid

2 months post-op



Case 5: BCC of the L lower eyelid



Subunits involved:

- L lower eyelid
- L medial canthus
- L cheek

Case 5: BCC of the L lower eyelid



Decrease tension on the lower eyelid

Tacking flap to Whitnall ligament or nasal bone

6 months follow up

Act II

Management of Extramammary Paget's Disease

Extramammary Paget's Disease

A rare adenocarcinoma of apocrine sweat glands

Primary

in situ carcinoma of
the apocrine glands



Basal stem cell layer
Toker Cells
Germinative apocrine stem cells

Apocrine Rich areas
Vs Ectopic

Secondary

intraepithelial spread from
carcinoma organ systems



GU or GI

EMPD Clinical presentation



EMPD workup

All EMPDs deserve a malignancy workup

CT Abdomen/Pelvis

Mammogram

Pap smears

Colonoscopy

Urine cytology analysis

Primary EMPD treatment

Topicals (imiquimod)

Wide Local Surgeries

Mohs surgery

Modified Mohs Surgery

Case 1: EMPD of the L vulva



Step 1

CT Abdomen/Pelvis

Mammogram

Pap smears

Colonoscopy

Urine cytology analysis

ALL NEGATIVE

Case 1: Primary EMPD of the L vulva

Patient's choice: tissue sparing surgery

s/p 4 stages of Mohs surgery



Case 1: Primary EMPD of the L vulva

Patient's choice: tissue sparing surgery

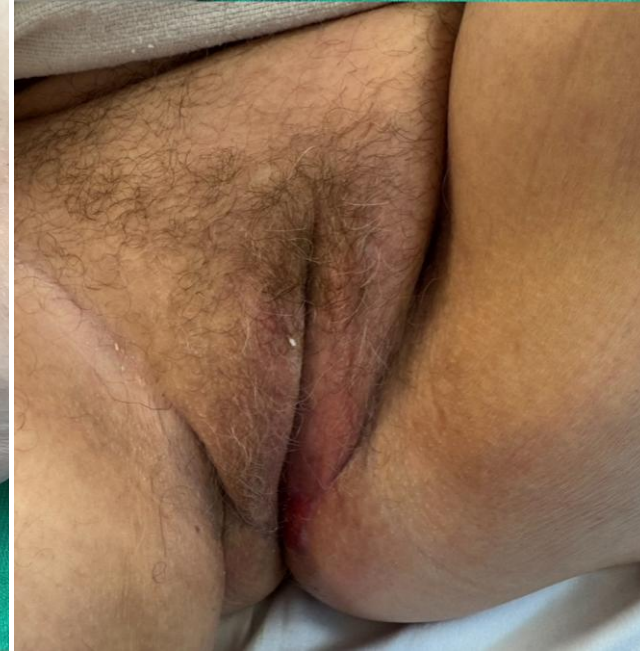
s/p 4 stages of Mohs surgery



Reconstruction



3 months post-op



Case 2: EMPD of the R and L vulva and labia

Step 1



CT Abdomen/Pelvis

Mammogram

Pap smears

Colonoscopy

Urine cytology analysis

CT pelvis: ovarian mass
confirmed epithelial ovarian cancer

Case 2: Secondary EMPD of the R and L vulva and labia



Referral to Oncology

Topicals for symptoms

Case 3: EMPD of the L scrotum / inguinal crease



Step 1

CT Abdomen/Pelvis

PSA

Colonoscopy

Urine cytology analysis

NEGATIVE

Case 3: Primary EMPD of the L scrotum / inguinal crease

Patient's choice: tissue sparing surgery



Case 3: Primary EMPD of the L scrotum / inguinal crease

mapping biopsies



Case 3: Primary EMPD of the L scrotum / inguinal crease

s/p 5 stages of Mohs surgery



reconstruction



Case 3: Primary EMPD of the L scrotum / inguinal crease

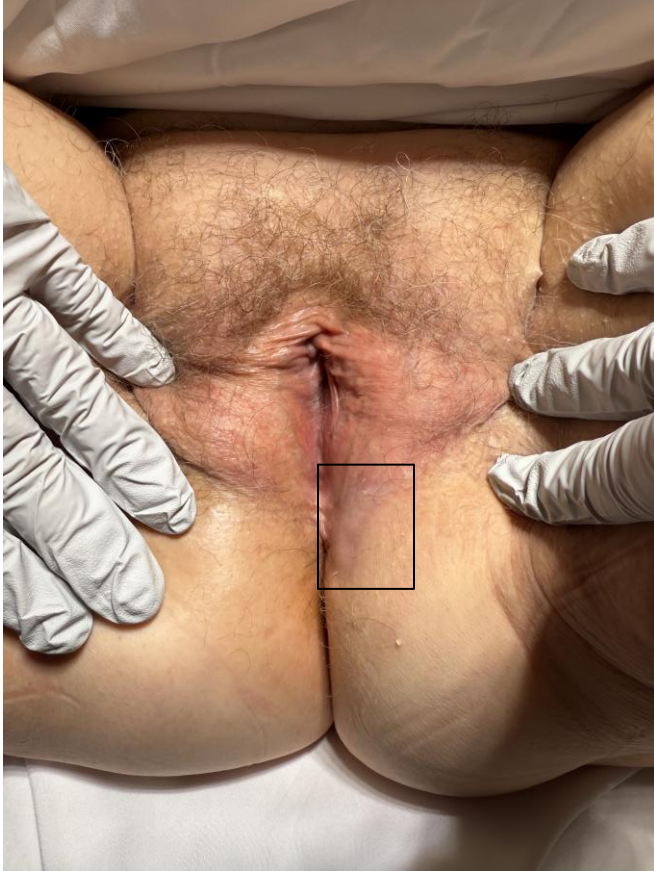
s/p 5 stages of Mohs surgery



1 month follow up



Case 4: EMPD of the L vulva



Step 1

CT Abdomen/Pelvis

Mammogram

Pap smears

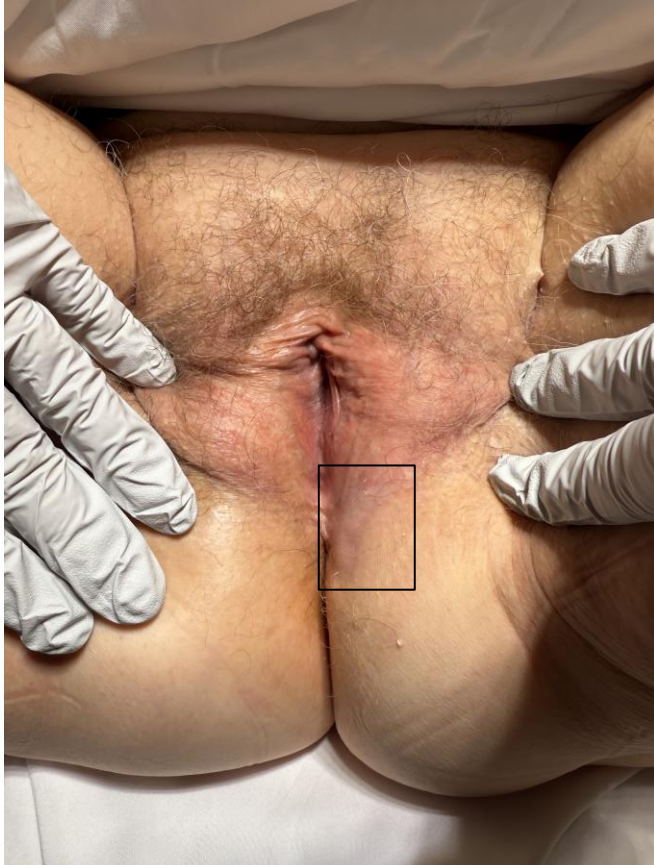
Colonoscopy

Urine cytology analysis

NEGATIVE

Case 4: EMPD of the L vulva

Patient's choice: trial of imiquimod



6 months follow up:

Scouting biopsies negative

Now on maintenance tx



Case 5: EMPD of the scrotum/penile skin



Step 1

CT Abdomen/Pelvis

PSA

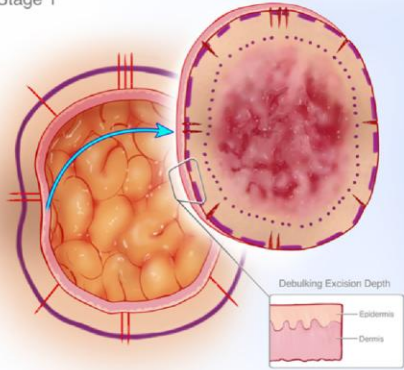
Colonoscopy

Urine cytology analysis

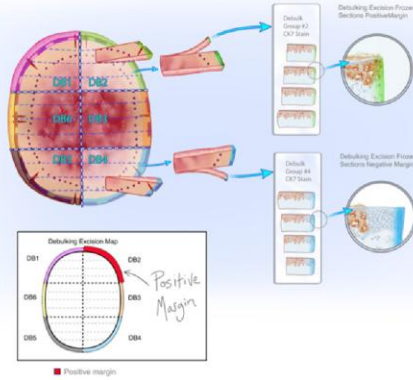
ALL NEGATIVE

EMPD Traditional Surgical Approach

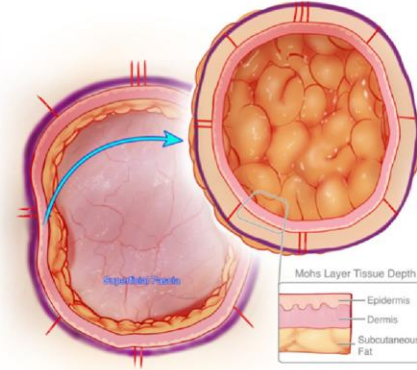
A
Comprehensive Mohs Technique, Debulking Excision, Stage 1



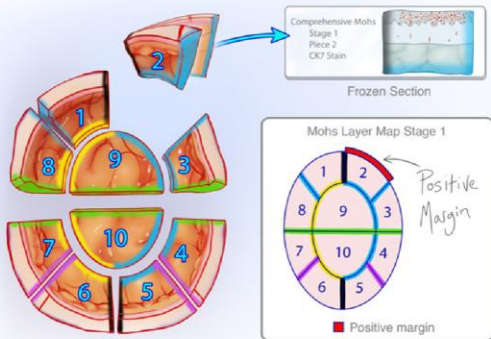
B
Debulking Excision, Stage1 Gross & Microscopic Frozen Sections



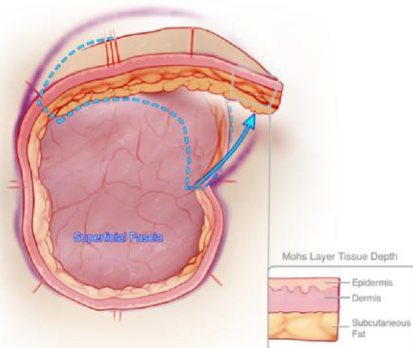
C
Comprehensive Mohs Layer, Stage 1



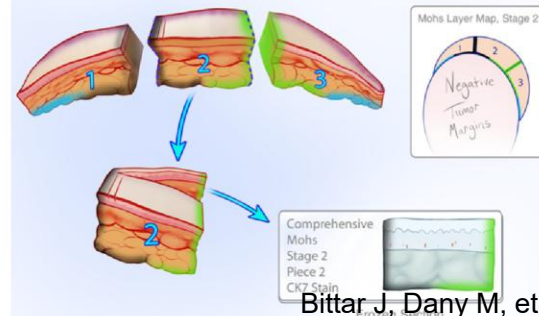
D
Comprehensive Mohs Layer, Stage 1
Gross & Microscopic Frozen Sections



E
Comprehensive Mohs Layer, Stage 2

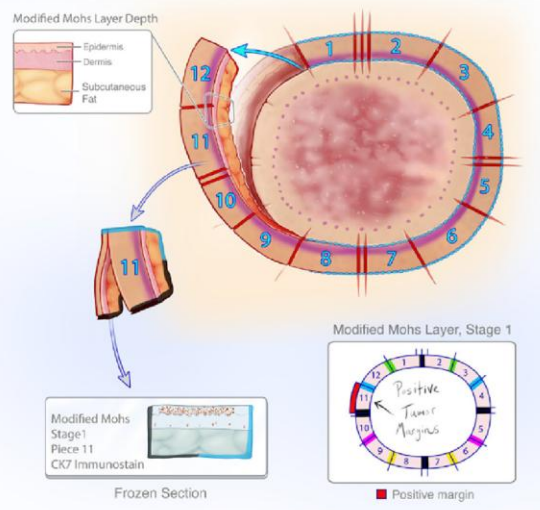


F
Comprehensive Mohs Layer, Stage 2
Gross and microscopic Frozen Sections

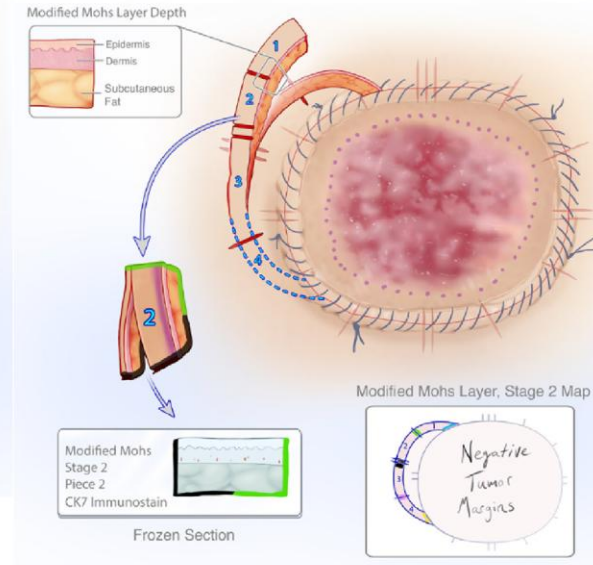


Modified Surgical Approach

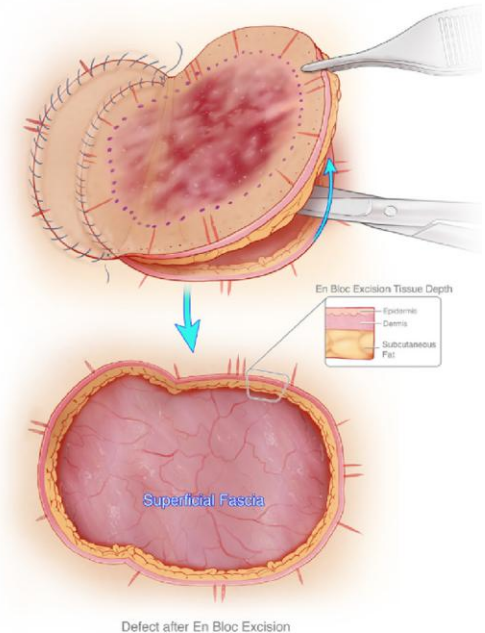
A
Modified Mohs Technique, Modified Mohs Layer, Stage 1



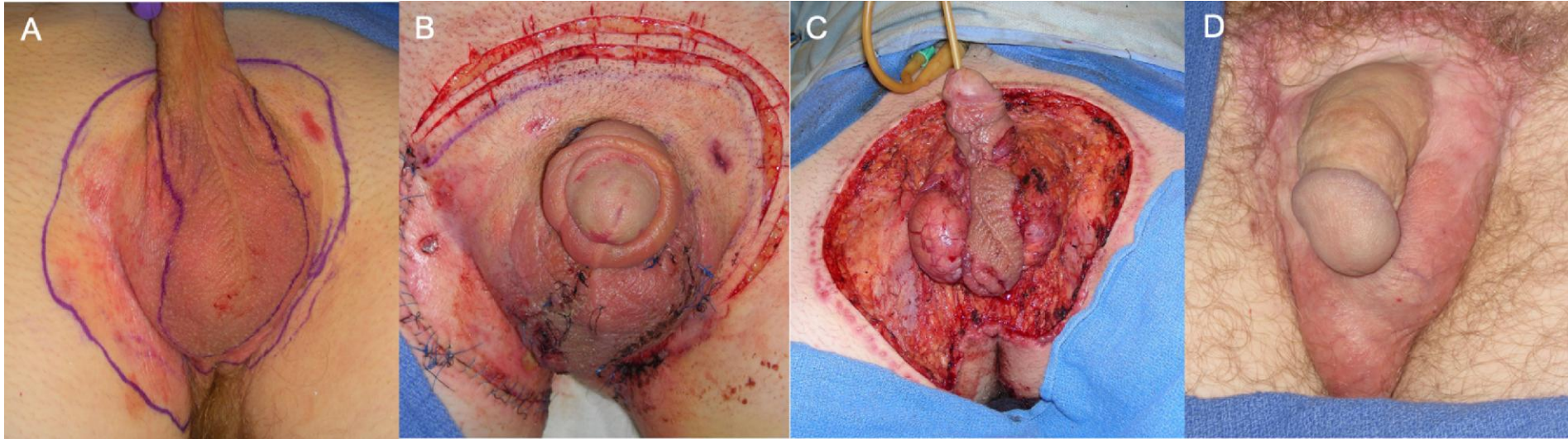
B
Modified Mohs Layer, Stage 2



C
En Bloc Excision after Defining Clear Peripheral Margins



Modified Surgical Approach



Modified Surgical Approach

DFSP of the R Knee

- Excised with positive margins
- MRI- extension to medial knee capsule
And medial collateral ligament
- Peripheral margin cleared with Mohs
- Depth referred to orthopedics surgery



Act III

High risk cutaneous Squamous cell carcinoma

Cutaneous Tumors – Let's rank them!

Lethality Potential

1. Merkel Cell Carcinoma

2. Melanoma

3. Squamous Cell Carcinoma

4. Basal cell carcinoma

Deaths / Year

**1. Squamous Cell Carcinoma
(15,000 deaths)**

**2. Melanoma
(7,200 deaths)**

3. Merkel cell carcinoma

4. Basal cell carcinoma

Current AJCC8 staging fails to identify >30% of metastatic cases

	Under-Staged % of metastases occurring in patients deemed low risk by staging	Over-Staged % of high-risk cases without metastases over-called by staging
Study	Patients with metastatic outcomes staged as T1/T2a	Patients without metastatic outcomes staged as T2b/T3
Tschetter 2020	60.0%	94.1%
Ruiz 2019	30.4%	74.6%
Marrazzo 2018	22.6%	83.4%
Cañueto 2018	39.1%	73.1%
Haisma 2016	51.9%	64.3%
Karia 2014	31.3%	76.1%
Jambusaria 2013	16.0%	61.8%
Median	31.3%	74.6%
Average	35.9%	75.3%
Comprehensive	35.1%	75.7%

BWH Tumor Staging



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graph TD; A[BWH Tumor Staging] --> B[Risk factors]; A --> C[Tumor Stage]
```

Risk factors

Tumor Stage

BWH Tumor Staging

School of Medicine

Risk factors

Size > 2 cm

Depth beyond fat

PNI > 0.1mm

Poorly differentiated

Tumor Stage

BWH Tumor Staging

School of Medicine

Risk factors

Size > 2 cm

Depth beyond fat

PNI > 0.1mm

Poorly differentiated

Tumor Stage

None → BWH T1

1 risk factor → BWH T2a

2/3 risk factors → BWH T2b

4 risk factors/Bone → BWH T3

BWH Tumor Staging

School of Medicine

Risk factors

Size > 2 cm

Depth beyond fat

PNI > 0.1mm

Poorly differentiated

Tumor Stage

None → BWH T1

1 risk factor → BWH T2a

2/3 risk factors → BWH T2b

4 risk factors/Bone → BWH T3

LOW RISK

HIGH RISK

BWH Tumor Staging

Applies to cSCC with risk factors

History and Physical Examination	Surgical and Pathology Findings
• Tumor size ≥ 2 cm anywhere on the body • Tumor location on the head, neck, hands, genitals, feet or pretibial surface (areas H or M) • Immunosuppression • Rapidly growing tumor • Tumor with poorly defined borders • Tumor at site of prior radiation therapy or chronic inflammation • Neurologic symptoms in region of tumor	• Perineural involvement: • Large (≥ 0.1 mm) or named nerve involvement • Small (< 0.1 mm) in caliber • Poorly differentiated tumor histology • Depth: • Invasion beyond subcutaneous fat • Invasion beyond ≥ 2 mm • Clark level $\geq IV$ • Aggressive histologic subtype^a • Lymphovascular invasion • Desmoplastic SCC

BWH Tumor Staging

School of Medicine

LOW RISK

BWH T1 → 6.5%

BWH T2a → 13.4%

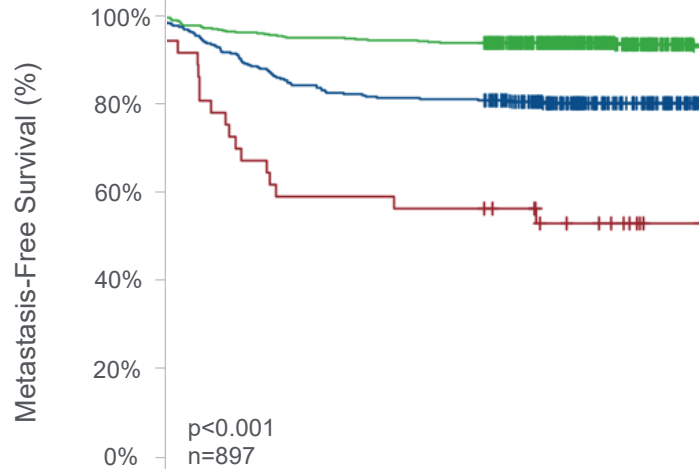
HIGH RISK

BWH T2b → 35.5%

BWH T3 → 45%

PPV of 55%

DecisionDx-SCC stratifies risk for metastasis in the merged cohort



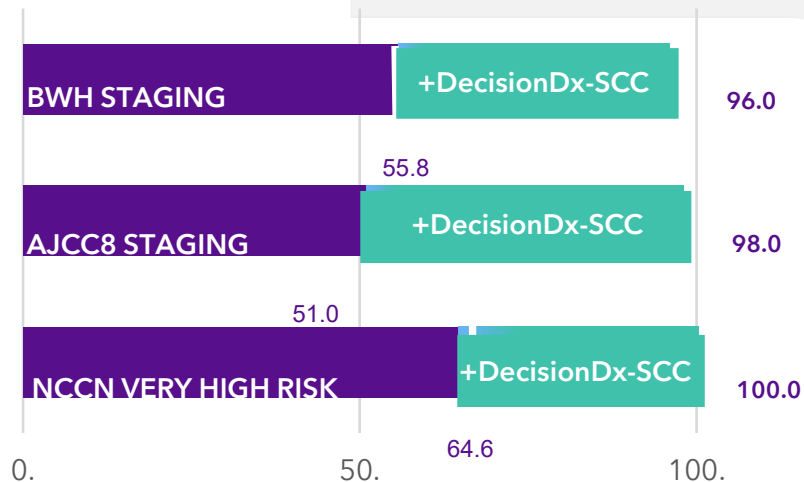
# AT RISK	Years	0	1	2	3	4	5
CLASS 1		510	490	483	480	289	166
CLASS 2A		350	308	287	284	185	100
CLASS 2B		37	24	22	21	14	7

DECISIONDx-SCC RISK CLASS	3-YEAR MFS (95% CI)	EVENT RATE
Class 1	94.1% (92.1-96.2%)	6.5%
Class 2A	81.1% (77.1-85.3%)	19.4%
Class 2B	56.8% (42.8-72.2%)	45.9%
OVERALL	87.5% (85.4-89.7%)	13.2%

PPV of 67%

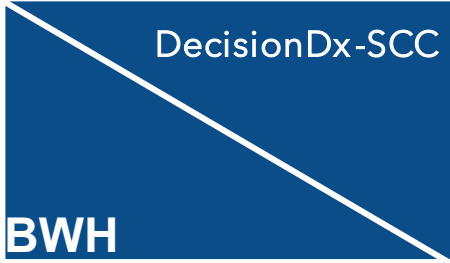
Incorporating DecisionDx-SCC significantly improves traditional clinicopathologic staging systems accuracy at predicting metastasis

LIKELIHOOD RATIO



p<0.0001, n=897

- The likelihood ratio of metastasis increased by **72%** when **DecisionDx-SCC** was incorporated with **BWH staging**
- The likelihood ratio of metastasis increased by **92%** when **DecisionDx-SCC** was incorporated with **AJCC8 staging**
- The likelihood ratio of metastasis increased by **55%** when **DecisionDx-SCC** was incorporated with **NCCN VHR guidelines**



DecisionDx-SCC

BWH



DecisionDx-SCC BWH			

DecisionDx-SCC BWH	Class 1 (6.5%)	Class 2A (20%)	Class 2 B (50%)
T1 (6.5%)			
T2a (13.4%)			
T2b (35.5%)			

DecisionDx-SCC BWH	Class 1 (6.5%)	Class 2A (20%)	Class 2 B (50%)
T1 (6.5%)	3.1% follow up with skin checks	11.3% -- clinical nodal exams -- Skin checks for recurrence	33.3% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc
T2a (13.4%)	7.4% follow up with skin checks	18.8% -- +/- baseline CT scan -- clinical nodal exams -- Skin checks for recurrence	36.4% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc
T2b (35.5%)	21.6% -- baseline CT scan -- clinical nodal exams -- Skin checks for recurrence	38.6% -- baseline CT scan -- Consider rad-onc visit	66.6% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc

Cemiplimab PD-1 inhibitor for advanced and metastatic cSCC not candidates for curative surgery or radiation

A Patient in Phase 1 Study



Baseline



Week 6

Table 2. Tumor Response to Cemiplimab, as Assessed by Independent Central Review.*

Outcome	Expansion Cohorts of the Phase 1 Study (N = 26)	Metastatic-Disease Cohort of the Phase 2 Study (N = 59)
Best overall response — no. (%)†		
Complete response	0	4 (7)
Partial response	13 (50)	24 (41)
Stable disease	6 (23)	9 (15)
Progressive disease	3 (12)	11 (19)
Could not be evaluated‡	3 (12)	7 (12)
Nontarget lesions only§	1 (4)	4 (7)
Objective response — % (95% CI)	50 (30–70)	47 (34–61)
Durable disease control — % (95% CI)	65 (44–83)	61 (47–74)
Median observed time to response (range) — mo¶	2.3 (1.7–7.3)	1.9 (1.7–6.0)

Cemiplimab PD-1 inhibitor for adjuvant cSCC with high risk of recurrence after surgery and radiation

The NEW ENGLAND JOURNAL of MEDICINE

Adjuvant Cemiplimab in Cutaneous Squamous-Cell Carcinoma

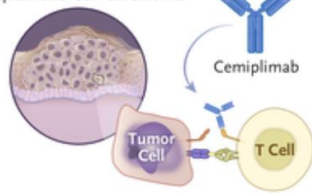
A Research Summary based on Rischin D et al. | 10.1056/NEJMoa2502449 | Published on May 31, 2025

Patients

- 415 adults
- Median age, 71 years
- Men: 84%; Women: 16%



High-Risk Cutaneous Squamous-Cell Carcinoma



Cemiplimab



N = 209

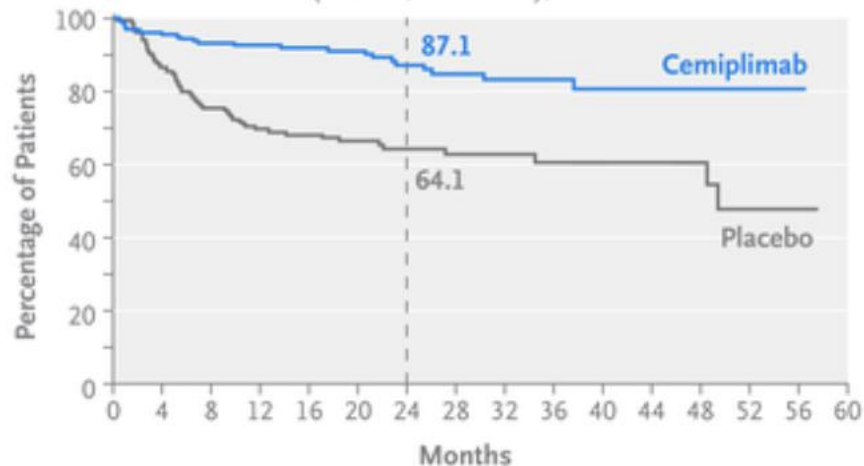
Placebo



N = 206

Disease-free Survival

Hazard ratio for disease recurrence or death, 0.32
(95% CI, 0.20–0.51); $P < 0.001$



Case 1: cSCC of the scalp



Size: 2.6x2.1 cm

Depth to fat

No PNI noted

well differentiated

BWH T2a

DecisionDx: Class 2B

DecisionDx-SCC BWH	Class 1 (6.5%)	Class 2A (20%)	Class 2 B (50%)
T1 (6.5%)	3.1% follow up with skin checks	11.3% -- clinical nodal exams -- Skin checks for recurrence	33.3% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc
T2a (13.4%)	7.4% follow up with skin checks	18.8% -- +/- baseline CT scan -- clinical nodal exams -- Skin checks for recurrence	36.4% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc
T2b (35.5%)	21.6% -- baseline CT scan -- clinical nodal exams -- Skin checks for recurrence	38.6% -- baseline CT scan -- Consider rad-onc visit	66.6% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc

Case 1: cSCC of the scalp



Size: 2.6x2.1 cm

Depth to fat

No PNI noted

well differentiated

BWH T2a

DecisionDx: Class 2B

- Baseline CT neg
- Declined radiation
- 1 year CT- scan: pos-auricular node ; referred to med onc

Case 2: cSCC of the L cheek



Size: 2.2x1.8 cm

Depth to SMAS

No PNI noted

Moderately differentiated

BWH T2b

DecisionDx: Class 1

DecisionDx-SCC BWH	Class 1 (6.5%)	Class 2A (20%)	Class 2 B (50%)
T1 (6.5%)	3.1% follow up with skin checks	11.3% -- clinical nodal exams -- Skin checks for recurrence	33.3% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc
T2a (13.4%)	7.4% follow up with skin checks	18.8% -- +/- baseline CT scan -- clinical nodal exams -- Skin checks for recurrence	36.4% -- CT scan surveillance -- Consider rad-onc -- Consider med-onc
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Case 2: cSCC of the L cheek



Size: 2.2x1.8 cm

Depth to SMAS

No PNI noted

Moderately differentiated

BWH T2b

DecisionDx: Class 1

- Baseline CT neg**
- CT q6mo x2 years negative**

Act IV

Locally advanced Basal Cell Carcinoma

laBCC vs BCC

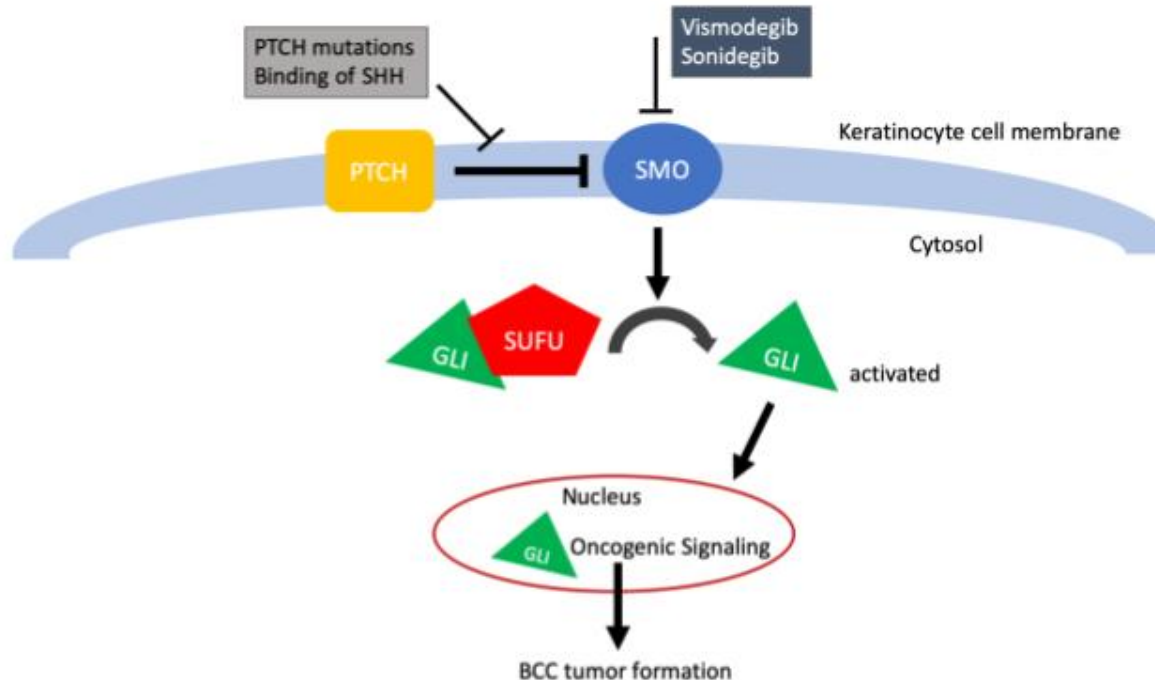
863,817 BCC

1%

8,638 laBCC



HHIs for laBCC



Efficacy:
Average 60% ORR
(CR and PR)

Side effects:

- Muscle spasms
- Dysgeusia
- Fatigue/nausea
- Hair loss

Neoadjuvant HHIs for smaller Mohs defects

4 months follow up



**Scouting biopsies in periphery:
negative for BCC**

Neoadjuvant HHIs for smaller Mohs defects

3 months follow up



5 months follow up



Neoadjuvant HHIs for smaller Mohs defects

Baseline



4 months follow up





VCU Medical Center

Thank you

E-mail: mohammed.dany@vcuhealth.org

