



**oncoBeta®**

## Basic Information for Physicians and Healthcare Professionals

### Rhenium-SCT®

Epidermal Radioisotope Therapy  
for the treatment of basal and squamous cell carcinomas



Bringing back  
**Quality of Life.**

**1x**

single-session



painless



aesthetic

>> We are continuously striving to improve the quality of treatment to patients suffering from non-melanoma skin cancer, the world's most common cancer. Our goal is to offer an effective, personalised and non-invasive treatment, independent of tumour size, severity and localization. Providing a fast, painless, single treatment with no side effects and aesthetic results. Meeting patient needs and bringing back quality of life. <<

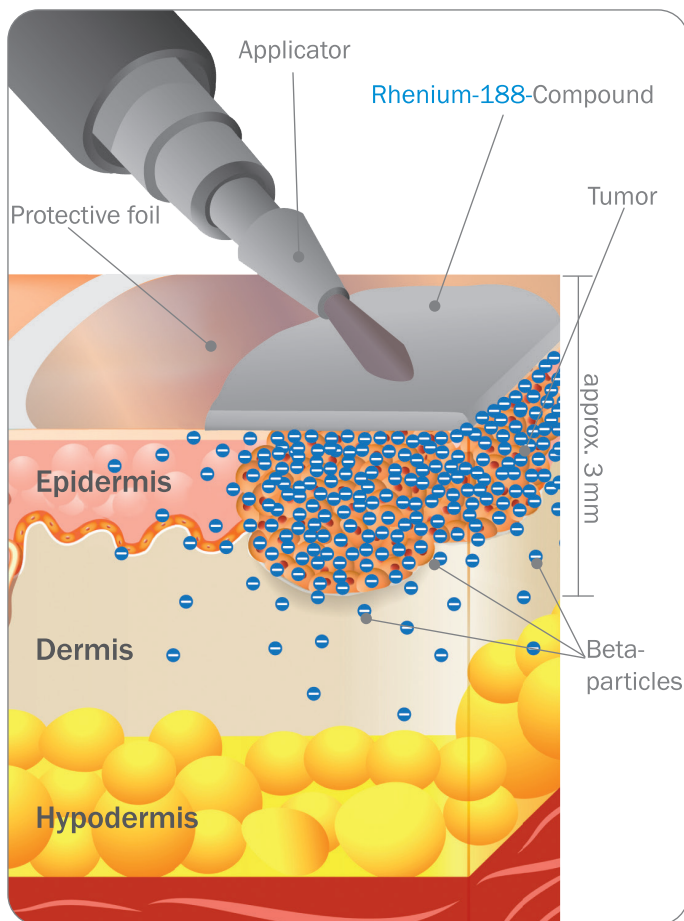
OncoBeta® GmbH



**Rhenium-SCT®**

single-session – painless – aesthetic





Transversal view of the skin



Carpoules filled with Rhenium-188-Compound



Treatment unit of the Rhenium-SCT®

**Rhenium-188** is a radioisotope specially produced for medical applications. Its beta-radiation has ideal properties for the local treatment of skin cancers.

With a maximum of 2.1 MeV, the beta-radiation of **Rhenium-188** has a penetration depth of ~ 2 – 3 mm in human tissue (92 % of its dose is delivered within the first 3 mm). The energy of the beta radiation is localised and deposited exactly in the tumour tissue, leaving the surrounding healthy tissue unharmed.

The **Rhenium-SCT®** (Skin Cancer Therapy) is therefore ideal for an effective, personalized therapy of non-melanoma skin cancers (basal and squamous cell carcinomas, incl. Bowen's disease), independent of the size, localization or severity of the tumor.

The medical effect of **Rhenium-SCT®** is based on the local direct cytotoxic effect of the beta particles, which triggers a local apoptosis and immune reaction. OncoBeta® provides all of the necessary equipment and required hardware (treatment unit and applicator) as well as various accessories needed for the treatment.

When used properly and the **Rhenium-SCT®** is applied according to its intended use together with its treatment unit and applicator, there is no relevant systemic radiation exposure of the patient (0.05–0.1 mSv) or of the treatment team (in average 0.7 µSv per treatment for the operators). The **Rhenium-SCT®** is CE mark approved as a Medical Device of OncoBeta® GmbH.





## Step 1:

The Skin Cancer Specialist marks the area needed to treat by the **Rhenium-SCT®** and prepares the treatment area if necessary.

Referral and admission to the nuclear medicine professional. Determination of the size of the area needed to treat.

Application of the special transparent protective foil.



Marking of the lesion and preparation of area to be treated.

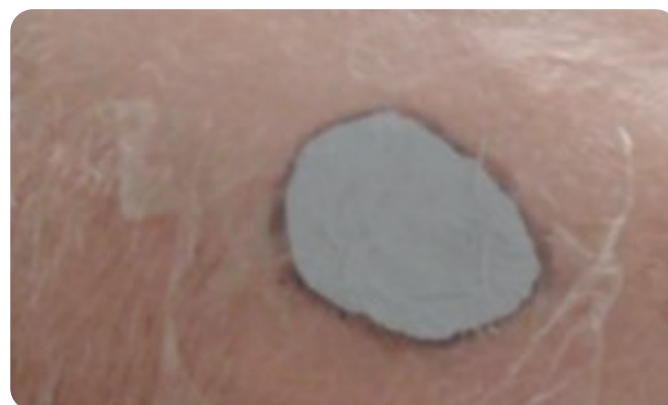
## Step 2:

Measurement of initial radioactivity of the **Rhenium-188**-Compound in the Carpoule.

Application of **Rhenium-188**-Compound on the area to be treated using the specially designed Applicator.

Measurement of remaining radioactivity in the Carpoule.

Calculation of treatment time.



Application of **Rhenium-188**-Compound on protective foil; treatment time is generally 45 to 180 minutes.

## Step 3:

Removal of the protective foil with dry **Rhenium-188**-Compound.

Disposal of radioactive waste in the waste disposal unit.

Control of potential radioactive contamination on patient.

Discharge from the Nuclear Medicine Professional.



Healing process and growth of new skin tissue after 30 – 180 days.



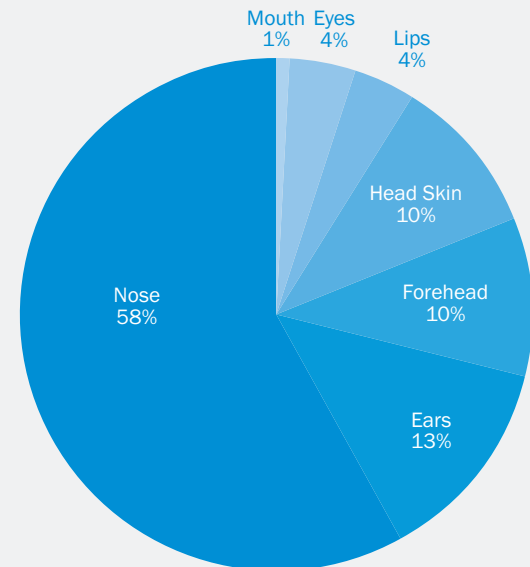
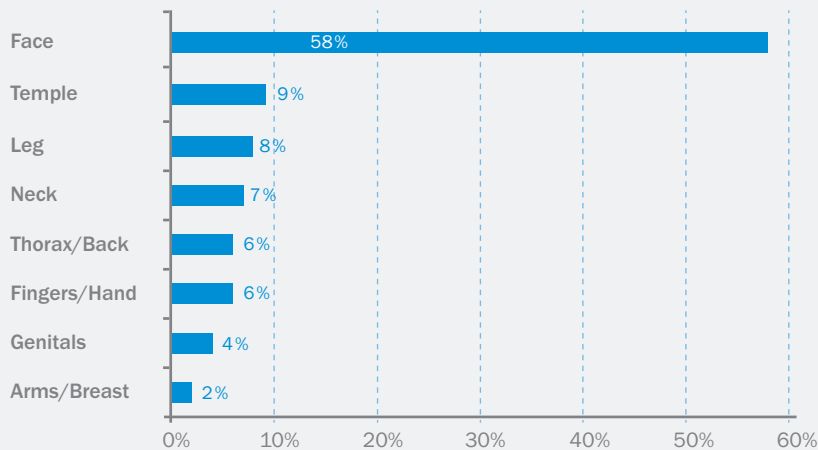
**Rhenium-SCT®**  
single-session – painless – aesthetic





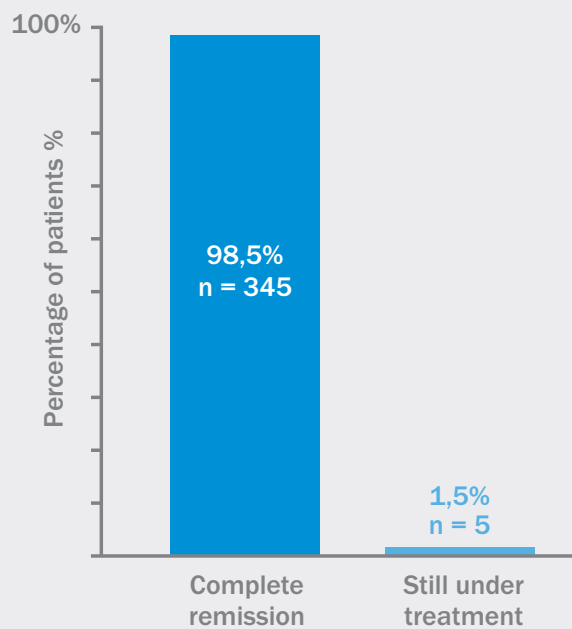
## To-date experience with Epidermal Radioisotope Therapy

- Number of treated lesions > 1300 (2003 – 2017, > 460 patients)
- Single-treatment needed for complete remission > 85% of the cases
- Number of treatments needed for complete remission 1–3
- Largest treated lesion to-date 150 cm<sup>2</sup>
- Reported secondary effects to date none
- Largest number of lesions treated simultaneously to-date 27
- Oldest patient treated to-date 105 years



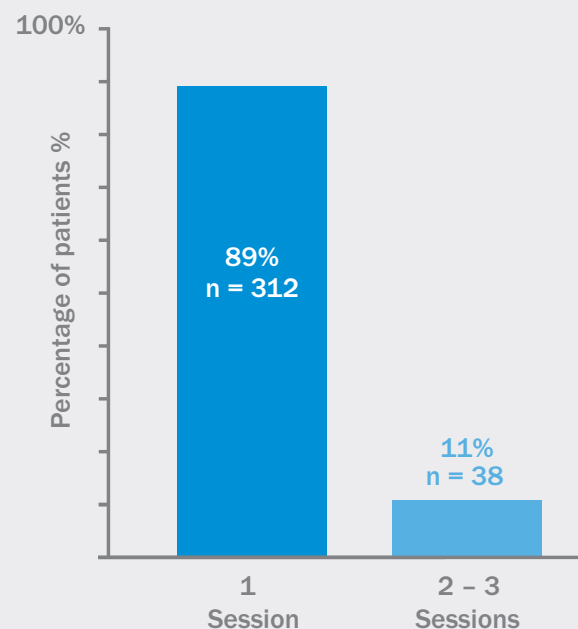
Source: Prof. Cesidio Cipriani, Ospedale St. Eugenio, Rome/Istituto AIGa, Celano (Italy)

### Results after 12–78 months follow-up



Almost all patients undergoing a epidermal radioisotope therapy obtained a complete remission of the treated lesions.

### Number of treatments before reaching a visible clinical remission



For the majority of the patients (89 %) the epidermal radioisotope therapy is a single-session treatment. Depending on the depth of the lesion, several applications may be required.

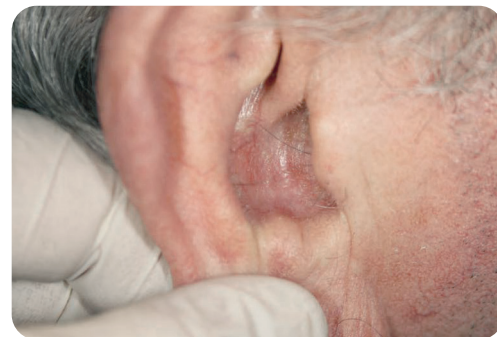
Source: Cipriani, C., and Sedda, A. F. "Epidermal Radionuclide Therapy - Dermatological High-Dose-Rate Brachytherapy for the Treatment of Basal and Squamous Cell Carcinoma." In Therapeutic Nuclear Medicine, edited by Baum, R. P. New York: Springer, 2014. ISBN 978-3-540-36719-2



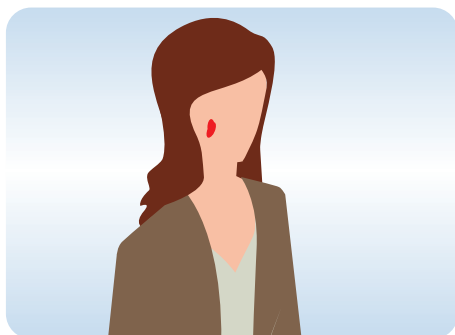


Before

After



### 1. Patient



- Patient notices superficial changes in his/her skin
- Patient schedules an appointment with a dermatologist

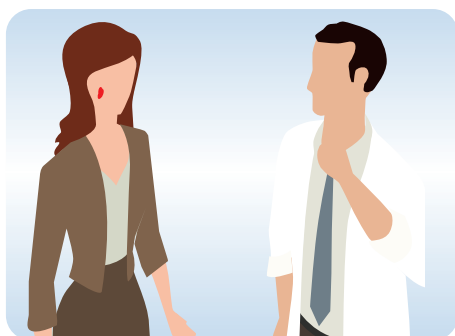


### 2. Dermatologist



- Dermatologic evaluation
- Dermatologist diagnoses BCC\*/SCC\*\* incl. Bowen's disease. If required a skin biopsy is taken
- Referral of patient to a skin cancer treatment center/clinic.

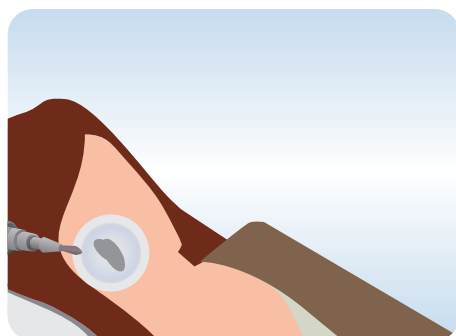
### 3. Skin Cancer Specialist



- Scheduling of consultations
- Discussion of treatment alternatives



### 4. Nuclear Medicine Physician



- If decision is made for the **Rhenium-SCT®** treatment

### 5. Dermatologist



- Appointment for aftercare/follow-up
- Documentation of healing process



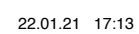
### 6. Patient



- Lesion treated (remission)
- Patient schedules regular check-ups with dermatologist

\* BCC = basal cell carcinoma

\*\* SCC = squamous cell carcinoma





## Rhenium-SCT®

### Epidermal Radioisotope Therapy



non-invasive



painless,  
no need for  
anesthesia



single-session  
in most cases



short duration  
of treatment



personalised



improved  
quality of life



certified  
medical device



aesthetic

**oncobeta®**

epidermal radioisotope therapy

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