



Dear Sir or Madam,

Greetings from the European Society of Lasers and Energy Based Devices (ESLD). The ESLD, along with the French & Tunisian Laser Group as well as other international physician associations, will launch a worldwide public awareness campaign. The purpose of this campaign is to educate the public and the medical community about chronic radiation dermatitis in breast cancer survivors and effective treatment option with laser therapy. The official public awareness campaign will end on the 27<sup>th</sup> of September 2017 at the meeting of the European Academy of Dermatology and Venereology (EADV) in Geneva with a large celebration.

As you may know, more and more patients are diagnosed with breast cancer and most (approximately 80%) are treated with radiotherapy. Radiotherapy is very effective and has dramatically improved breast cancer prognosis. The overall mortality linked to this terrible disease is now fortunately reduced to below 20%. However, about ten years post-radiotherapy, up to 30% of patients develop a form of chronic skin disease directly related to the radiotherapy referred to as chronic radiation dermatitis. One of the hallmarks of this dermatitis is the presence of numerous telangiectasias (dilated red blood vessels). Furthermore, this skin disease is often marked by an abnormal pigment distribution with areas of lack of pigment in combination with areas of too much pigment (dyspigmentation), very thin and fragile skin (skin atrophy), and sometimes an induration of the skin (subcutaneous fibrosis). Over time, even ulcerations and secondary skin carcinoma of the affected skin may develop.

Paradoxically, treating cancer and improving prognosis lead to an increase in the number of people affected by chronic radiation dermatitis. In France alone, there are more than 10,000 patients newly affected by this condition every year. Those patients, who have won the fight against cancer, have unfortunately a rather high likelihood to develop chronic radiation dermatitis down the line. A decrease in the quality of life of those patients appears to be obvious but can't be stressed enough.

Fortunately, treatment with vascular laser has proved to be safe and highly effective in treating the chronic radiation dermatitis. It has also shown to greatly improve quality of life. As an example of positive outcomes, a study conducted in France demonstrated in more than 100 women the efficacy of laser therapy with an absence of long term and unexpected side effects. In another Danish study, participants reported an average satisfaction of more than 8 on a scale of 10 after only three laser treatments. These results are even more encouraging, since currently, no alternative treatments can be proposed to the patient affected by this disabling skin disease. However, most of the women affected by this chronic skin disease as well as their treating physicians are not aware of the possibility of an effective therapy. It is this lack of awareness that denies the patient the right to move on and forget about their cancer; a right to which we as a society finally give the well-deserved importance.

Join us to launch the public awareness campaign on the 3<sup>rd</sup> of June 2016 in Paris. Together we will advance medicine into the 21<sup>st</sup> century.

Please contact us directly for more information or visit our website at [www.esld.eu](http://www.esld.eu).

Best regards,

Dr. Hans-Joachim Laubach

ESLD President

# Laser Medicine for Breast Cancer Survivors

**Join the public awareness campaign at [www.esld.eu](http://www.esld.eu)  
or like us on Facebook**



**GROUPE LASER**  
De la SFD

Lasers et technologies apparentées



**Groupe Laser**

Société Tunisienne de Dermatologie et de Vénérologie

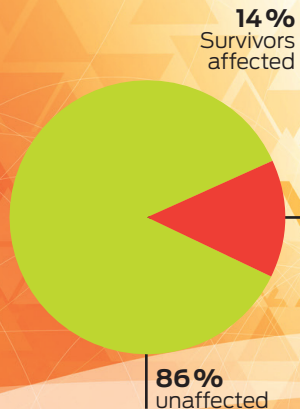
# Radiotherapy Saves Lives !

## 3 Million Survivors in 2012<sup>(1)</sup>

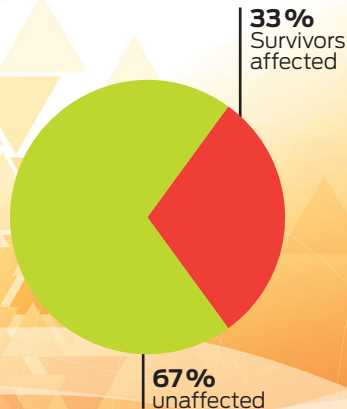
> 80 % of breast cancer patients survive longer than 10 years  
Currently > 3 million breast cancer survivors live in developed countries

### Chronic Radiation Dermatitis after Radiotherapy<sup>(2)</sup>

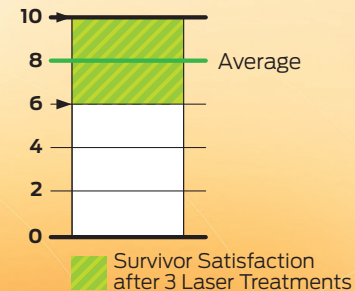
after 5 years



after 10 years



### Chronic Radiation Dermatitis A Treatable Skin Disease<sup>(3)</sup>



**Only 1 out of 10 are treated !<sup>(4)</sup>**



Only up to 10% of survivors affected by chronic radiation dermatitis currently treated with laser medicine

References: (1) World Cancer Research Fund International (wcrf.org) 2016  
(2) Whelan et al., NEJM 2010  
(3) Nymann et al., *Br J Dermatol.* 2009  
(4) Survey French Laser Group 2016

## Laser Medicine for Breast Cancer Survivors

Join the Public Awareness Campaign



## Chronic Radiation Dermatitis A treatable skin disease

## Breast Cancer - What are the numbers?

1,7 Million new breast cancer diagnosis/year  
worldwide

## > 80% long term survival

99% 5-year survival if cancer affects only breast

More than 80 % of all women  
survive their breast cancer > 10 years

## RADIOTHERAPY SAVES LIVES!

## 3,2 Million Survivors in 2012

In developed countries, there are currently  
3,2 Million women having survived their  
breast cancer > 5 years

## Problems for Long-Term Survivors?

- **“1/3 have chronic radiation dermatitis of the treated area 10 years after their treatment”**
- “14% have chronic radiation dermatitis 5 years after their treatment”
- “3 -13 % have telangiectasias 6 years after breast conserving treatment”

## What is Chronic Radiation Dermatitis

- Cells are damaged due to radiation therapy
- Skin signs:
  - Frequent:
    - Enlarged red blood vessels (telangiectasias)
    - Uneven Pigment (Dyspigmentation)
    - Permanent loss of skin structures like hair, sweat glands, and others (atrophy of adnexal structures)
    - Thin, dry skin (epidermal and dermal atrophy)
    - Hardening of the skin (dermal fibrosis)
  - Rarely:
    - skin ulcers,
    - skin cancers (Basal cell carcinomas, squamous cell carcinomas)



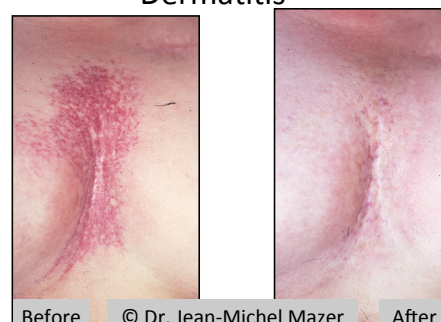
## Morbidity in Breast-Conserving treatment

- “After a median follow-up time of 6.6 years, 27 % regarded the cosmetic result as less than good.”
- “Morbidity assessments showed that breast fibrosis, **skin telangiectasia**, and breast retraction were significantly associated with a less satisfactory cosmetic result.”
- “Self-assessments of breast morbidity and psychological distress were significantly related to the observed treatment-induced side effects after breast-conserving treatment”

## Treatment for Chronic Radiation Dermatitis?

- Women are embarrassed about this disease and do not yet look actively for treatment
- If looking for treatment they mostly address it with:
  - Primary Care Physician
  - Oncologist
  - Ob/Gyn
- Current Care Proposed to most survivors:
  - Reassurance that it is not a recurrence of the cancer
  - Sometimes topical cream – efficacy is questionable

## Laser Medicine for Chronic Radiation Dermatitis

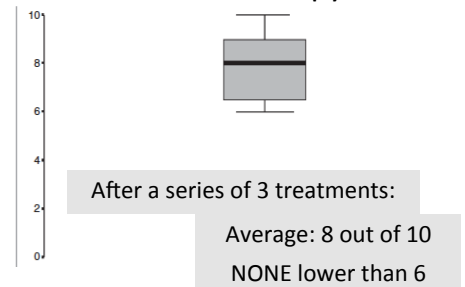


## Laser Medicine for Chronic Radiation Dermatitis



Drs. Rossi, Nehal, & Lee; New York, USA

## Survivor Satisfaction after Laser Therapy



## Comments after Laser Therapy

- Some patient statements after 3 treatments:
  - “I have an increased self-esteem”
  - “I can get undressed in front of my partner again without being ashamed.”
  - “I am able to wear again clothing that I like.”

Source: Drs. Rossi, Nehal, & Lee; Sloan Kettering Cancer Center, New York, USA, 2014

## Laser Medicine For Breast Cancer Survivors

- A considerable number of breast cancer survivors have chronic skin disease 10 years after tx
- Worldwide unaddressed public health issue
- In France (well developed health care system):
  - 65000 new breast cancer patients/year
  - > 10000 survivors/year with chronic radiation dermatitis
  - Max. 500 survivors are treated with laser therapy per year

Public Awareness Campaign  
JGL June 2016, Paris  
- EADV Sept 2017, Geneva



## REFERENCES



### Source

- “More than 80% of women survive their breast cancer - thanks to modern medicine and radiation therapy”
- “99% 5 year survival if cancer only in breast”
- *American Cancer Society, Cancer Facts & Figures 2016, and the National Cancer Institute Surveillance Epidemiology and End Results (SEER) database.*

### Source

- “1,7 Million new cases of breast cancer in 2012 worldwide”
- “In developed countries there are 3,2 Million women having survived their breast cancer > 5 years”
- “Breast Cancer Incidence France (metropolitan) 2012: 104,5/100.000”
- Source: World Cancer Research Fund International (wcrf.org)
- Ferlay J et al., Cancer incidence and Mortality worldwide: IARC Cancer Base 11. Lyon, France: International Agency for research on Cancer 2014

### Source

- “after a median follow-up time of 6.6 years, 73% regarded the cosmetic result as excellent or good.”
- “Morbidity assessments showed that breast fibrosis, **skin telangiectasia**, and breast retraction were significantly associated with a less satisfactory cosmetic result.”
- “3- 13% of breast cancer survivors have telangiectasias”
- “self-assessments of breast morbidity and psychological distress were significantly related to the observed treatment-induced side effects after breast-conserving treatment”
- Danish Breast Cancer Cooperative Group (DBCG) and the DBCG Radiotherapy Committee, **Danish Cancer Society**
  - Johansen J<sup>1</sup> et al. Acta Oncol. 2002;41(4):369-80.
  - **Cosmetic outcome treatment--results from the Danish DBCG-82TM national randomized trial in breast cancer.**

Source: Whelan et al.; *The NEW ENGLAND JOURNAL of MEDICINE* 2010 NEJM

**Table 1. Late Toxic Effects of Radiation, Assessed According to the RTOG-EORTC Late Radiation Morbidity Scoring Scheme.\***

Site and Grade	5 Yr		10 Yr	
	Standard Regimen (N=424)	Hypofractionated Regimen (N=449)	Standard Regimen (N=220)	Hypofractionated Regimen (N=235)
percent of patients				
<b>Skin</b>				
0†	82.3	86.1	70.5	66.8
1	14.4	10.7	21.8	24.3
2	2.6	2.5	5.9	6.4
3	0.7	0.7	2.7	2.5
<b>Subcutaneous tissue</b>				
0‡	61.4	66.8	45.3	48.1
1	32.5	29.5	44.3	40.0
2	5.2	3.8	6.8	9.4
3	0.9	0.9	3.6	2.5

\* Effects of radiation therapy on skin and subcutaneous tissue were graded on a scale of 0 to 4 (with 0 indicating no toxic effects and grade 4 indicating skin ulceration or soft-tissue necrosis). RTOG-EORTC denotes the Radiation Therapy Oncology Group and the European Organization for Research and Treatment of Cancer.  
† The absolute difference at 5 years was -3.8 percentage points (95% confidence interval [CI], -8.7 to 1.0), and at 10 years the absolute difference was 3.7 percentage points (95% CI, -4.9 to 12.1).  
‡ The absolute difference at 5 years was -5.4 percentage points (-11.9 to 0.9), and at 10 years the absolute difference was -2.8 percentage points (-11.7 to 6.5).

14% 1/3

### Source

- “3- 13% of breast cancer survivors have telangiectasias”
- Johansen J<sup>1</sup>, Overgaard J, Rose C, Engelholm SA, Gadeberg CC, Kjaer M, Kamby C, Juul-Christensen J, Blichert-Toft M, Overgaard M; Danish Breast Cancer Cooperative Group (DBCG) and the DBCG Radiotherapy Committee.
- **Cosmetic outcome and breast morbidity in breast-conserving treatment--results from the Danish DBCG-82TM national randomized trial in breast cancer.**
- Acta Oncol. 2002;41(4):369-80.
- <sup>1</sup>Danish Cancer Society, Department of Experimental Clinical Oncology, Aarhus

### Some Numbers for France

France has 65 Million inhabitants (wikipedia.org)  
Breast Cancer incidence in France in 2012  
104.5/100.000 inhabitants (World Cancer Research Fund International)  
= new breast cancer patients/year: 67.925 patients

10 year survival rate 83% (American Cancer Society, Cancer Facts & Figures 2016)  
= new long term breast cancer survivors /year: 56.377 patients

Incidence of chronic radiation dermatitis  
after 10 years = 34% (Whelan et al, NEJM, 2010)  
= new chronic radiation dermatitis patients/year: 18.604 patients

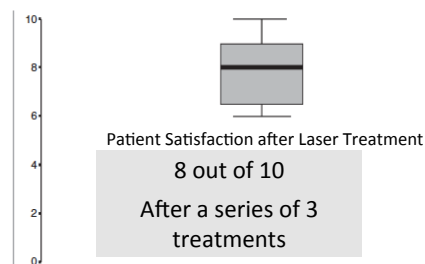
## Laser Medicine for Chronic Radiation Dermatitis



Drs. Rossi, Nehal, & Lee; Sloan Kettering Cancer Center, New York, USA  
J Clin Aesthet Dermatol. 2014 Dec; 7(12): 34-37.

**Radiation-induced Breast Telangiectasias Treated with the Pulsed Dye Laser**

## Source



Nymann P, Hedelund L, Haedersdal M.  
Intense pulsed light vs. long-pulsed dye laser treatment of telangiectasia after radiotherapy for breast cancer: a randomized splitlesion trial of two different treatments.  
Br J Dermatol. 2009;160(6):1237-1241.

## Some Numbers for France

- NEW chronic radiation dermatitis patients/year: 18.604 patients
- Number of chronic radiation dermatitis patients treated with laser medicine in France (2016) – (Groupe Laser de la SFD, 2016)  
    < 500 patients/year
- Each year approx. 18.000 new, untreated patients in France
- = 0,02% of population is affected and untreated per year in developed countries

Data within other countries might be different but are unfortunately not available

## Numbers

- > 1 billion people have access to modern medicine

All of: USA, Europe, Canada, Australia, South Africa, Japan, Israel, New Zealand,

Parts of: China, India, Pakistan, Northern Africa, Mexico, Russia, South Korea, Iran, and many others)

- = 200.000 patients worldwide with access to modern medicine NEWLY affected with chronic radiation dermatitis each year and not treated