

KOEN MAERTENS^{1,2}, PETER MOORTGAT¹, CYNTHIA LAFAIRE^{1,3}

1. OSCARE, Organisation for Burns, Scar Aftercare and Research, Antwerp, Belgium.

2. Vrije Universiteit Brussel, Department of Clinical and Lifespan Psychology, Vrije Universiteit Brussel (VUB), Brussels, Belgium.

3. ZNA Stuivenberg, Burns Centre, Antwerp, Belgium.

The OSCARE Concept: a Multidimensional Approach to Aftercare and Education of Burns and Scars

Abstract

Introduction: Cutbacks in resources and reorganisation of public health systems have led to a shift towards more ambulatory health care services. In 2001 OSCARE, an organisation for burns, scar aftercare and research, was founded as a private initiative in order to meet a growing demand for accessible and affordable multidisciplinary aftercare for patients with burns and scars outside the hospital. **Methods:** Severe burns and scars generally need a long-term follow-up. The OSCARE Aftercare Department offers multidisciplinary professional services by a team of doctors, physiotherapists, occupational therapists, orthopaedic technicians, nurses, psychologists. In 2008 a Research Department was added to the services to untangle the efficacy of new treatments and to test new treatment protocols in order to improve quality of life of patients. In 2010 an educational program – Scar Academy – was added to improve and share knowledge and skills in scar management. **Results:** Since the introduction of the Research Department diverse scientific studies were set up, in collaboration with universities and industry. The number of patients increased impressively to approximately 800 yearly in 2013 with more than 7000 consultations carried out in total. In total more than 200 Health Care Providers, mainly Medical Doctors, Physiotherapists and Nurses have followed the basic module in Belgium and the UK or followed a hands-on workshop physical scar treatment at our Scar Academy. **Discussion:** A new burn care model integrating aftercare, research and education could work as a strong catalyst to finally enhancing the quality of life in patients.

Keywords: burns, scars, aftercare

Introduction

It is a well-known fact that residential healthcare is expensive. Partly as a result of this, we have seen a shift from residential care to care in outpatient settings in recent years.

There has also been a clear shift within the world of burn injuries in past decades. Mainly thanks to the development of medical techniques and tools, which help severe burns patients live longer, the focus is gradually shifting from 'surviving burns' to 'living with burns'. This change has a number of implications, though. Even though patients with severe burns can be kept alive, the question we must ask ourselves is: What quality of life can we offer these patients (within the current care system)? After hospitalisation, burns patients undergo a long recovery program of physical rehabilitation, acceptance and reintegration, which requires a multi-disciplinary and integrated approach.

OUTLINE OF THE PROBLEM

Each year, an estimated 120,000 accidents result in burn injuries in Belgium. There are around 12,000 house fires a year, which result in 120 fatalities. Some 13,000 to 15,000 people are treated by their GPs, 4,000 of whom are eventually admitted to hospital. Every year, about 1,600 people, including 400 children, are treated in a specialised burns unit.¹

Burns cause lasting injuries. The temporary and permanent disability as a result of burns often lasts longer than other accident injuries. Recovery and (physical) aftercare for patients with

burns is around 18 months on average for adults, and up to two years for children. The psychological processing and acceptance of the permanence of the scars is a long process that may never end.

FROM RESIDENTIAL TO OUTPATIENT CARE

At present, the physical rehabilitation of burns patients is mainly carried out by therapists in the periphery. After all, burns units mainly cater for acute care, and are not designed to carry out daily (scar) treatments. The (post-) treatment involves a whole range of disciplines, ranging from surgeons, (home) nurses, physiotherapists, dermatologists, occupational therapists, orthopaedic technicians, psychologists, psychiatrists and GPs, right through to speech therapists and dieticians. The largest part of in this aftercare phase is the physical rehabilitation, which is mainly in the hands of physiotherapists. Burns patients require frequent scar treatment, particularly in the early days of their recovery. Among other things, this includes active and passive manipulation, which improves colour, texture and suppleness.^{2,3} The patient should receive scar treatment almost daily at the beginning, and less frequently as the months go by, depending on the progress made.

Patients return to the hospital or outpatient centre for check-ups at regular intervals, where the treatment is assessed, and adapted if necessary. For this, they often end up in an outpatient clinic, or, in some cases, at specialised scar assessment clinics, usually within a hospital context. Due to the fact that patients

are treated in the periphery, often by therapists whose basic knowledge about the treatment of burns and scars is patchy and basic, problems sometimes come to light when it is (too) late.

Usually, we can rely on the expertise in scar treatments in a great deal of specialised centers. Unfortunately there are not enough of those centres and the lack of a clear worldwide vision on this topic gives unqualified organisations the opportunity to offer treatments without having the necessary fundamental knowledge.

ORGANISATION OF SCAR TREATMENT

Currently a lot of specific scar treatments take place in public settings, mostly in a hospital context. Depending on the sort of treatment, different settings qualify the needs: in a hospital, in rehabilitation centres within or outside the hospital, in nurse practices/care facilities, in out-patient multidisciplinary treatment centres or public-private partnerships as OSCARE is functioning within.

OSCARE, A P³ MULTIDISCIPLINARY TREATMENT CENTRE

OSCARE, an organisation for burns, scar aftercare and research, based in Antwerp, Belgium, set up a new organisational model in burn and scar care world. It combines different domains which are inextricably interconnected with each other on a *public-private partnership* (P³) base resulting in a better outcome: aftercare, research and education. (Figure 1)

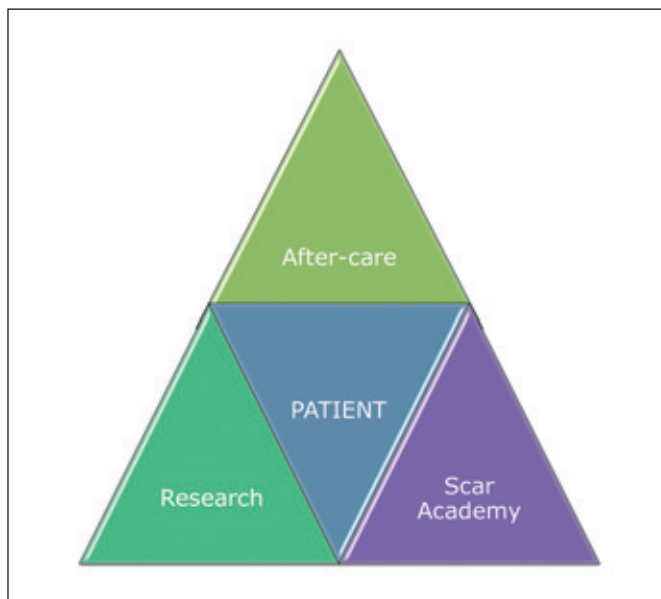


Figure 1. Oscare triangle scar model.

CORNERSTONES

OSCARE pursues two main goals: to offer low-threshold affordable care and qualitative aftercare.

Low-threshold affordable aftercare

OSCARE seeks to offer quality aftercare in the most accessible way possible. After all, burns patients often have a long (and sometimes traumatic) hospital experience behind them, and a long recovery period ahead of them. That is why OSCARE has explicitly opted to offer its services at affordable prices outside the hospital context. In doing this, it aims to increase accessibility and keep the threshold to the care providers as low as possible. Patients have the opportunity to talk to other patients

and share experiences (peer support), and can also discuss their needs and concerns with the doctors, psychologists, manufacturers of pressure garments, care coordinators and (social) nurses. Moreover, this also promotes communication and the exchange of information among care providers, which, in turn, benefits the patient. OSCARE also strives to offer qualitative aftercare through a peripheral network of trained therapists.

Qualitative aftercare

OSCARE deliberately and explicitly opts for high-quality and accessible aftercare, based on the necessary knowledge, skills and expertise. In order to be able to offer the necessary aftercare to burns victims, therapists need in-depth training and support in the fulfilment of their profession.

OSCARE stands for care that is person-centred, committed, quality-driven, innovative and enterprising.

Qualitative aftercare through training

OSCARE believes that 'every patient is entitled to qualitative aftercare'. In order to ensure this, it's important that the therapists have sufficient knowledge, skills and expertise. This is only possible if they are adequately trained, based on the latest findings from scientific research. Quality aftercare can only be provided with the most competent therapists. The government has a clear (supporting) role in the training of therapists.

Qualitative aftercare through monitoring and adjustment

Therapists working in the periphery can perform only optimally only if they are well trained while assisted and supported by experts. This support can be remote (by telephone or via e-mail) or by physical meetings (in aftercare centres).

Qualitative aftercare through research

New technological and medical aids should contribute to quality aftercare and, consequently, to a better quality of life for the patient. Scientific research must strive for excellent aftercare by testing the usability and effectiveness of innovative technologies and medical aids. The government should create a climate in which research into these techniques and tools is financially supported.

OSCARE NON-PROFIT ORGANISATION

OSCARE is an aftercare and research centre for burns and scars that wants to use its knowledge and expertise to foster the further development and expansion of the aftercare concept for burns in Belgium and Europe. The unique combination of aftercare, research and education permits OSCARE to take and maintain a prominent pioneering role. Through a wide-ranging prevention program, OSCARE endeavours to raise public awareness on burns and scars and to stimulate fire-safe living.

Aftercare

In its ambulatory scar treatment centre OSCARE yearly offers aftercare for about 800 patients (Figure 2) with burns and scars yearly by a multidisciplinary team of medical doctors, physiotherapists, nurses, occupational therapists, psychologists, orthopaedic technicians, etc. with a total of approximately 7000 consultation moments. Therapists are working on an independent base and are reimbursed for their services by health insurance. Non-reimbursed therapies, such as psychological guidance, special scar treatments (e.g. microneedling), is funded by the organisation (or can be paid by the patient).¹

→

→ COMPRESSION GARMENTS AND SILICONE

Scar formation remains a major problem for burns patients. When patients are discharged from hospital, scars often “look good” since this is only the initial phase of the scarring process. With time they tend to thicken, due to excessive collagen deposition and this may lead to functional limitations. To counteract scar tissue formation, patients must wear made-to-measure compression garments. Unfortunately, scar formation can never be avoided altogether. Hypertrophic scars are not only difficult to conceal; they can also impede fine motor skills and mobility.

Compression garments, compression masks and other orthopaedic material is measured at OSCARE by an external partner.

Despite the fact that more items are now reimbursed by the National Health Service, there are still many situations where no (or only partial) reimbursement can be obtained. In these cases, OSCARE takes care of (part of) the cost.

SCAR TREATMENTS

Patients with burns and scars can turn to OSCARE for scar treatments on a daily base applied by a group of physiotherapists. Innovative scar techniques like depressomassage, shockwave therapy, and microneedling, as well as more traditional (manual) treatment methods are used to improve colour, elasticity and surface texture of scars.⁴ The special scar therapies used have been tested in our research department. In collaboration with a dermatology clinic OSCARE also offers laser therapy in order to remodel and soften skin surface, texture and colour. In case of hair loss caused by their burns Hair Stem Cell Transplantation[®] can be offered as a possible solution to our patients executed by an external partner.

PSYCHOLOGICAL COUNSELLING

Apart from the physical problems, burns victims also experience a great deal of psychological damage. Posttraumatic stress syndrome is not uncommon, and often leads to attempted suicide. The victim's altered self-image will, to a large extent, determine how the patient will face the future and whether he is able to function normally in interpersonal relationships and in his social and professional environment.⁵

For that reason, every patient needs individual counselling and coaching. Patients can see a psychotherapist with their psychological and relational issues. Since the National Health Service reimburses very little – if at all – towards the cost of treatment and counselling, and since we want to help as many patients as possible, the cost is carried entirely by OSCARE so that the patient can get free treatment.

MEDICAL CAMOUFLAGE

Since there is evidence that self-confidence increases when a person's appearance and body image is improved, OSCARE offers medical camouflage workshops.

OCCUPATIONAL THERAPY

An occupational therapist uses various techniques such as play therapy, mirror therapy and serious gaming in order to improve functioning. This helps patients with physical limitations reintegrate in daily life and return-to-work situations.

PEER SUPPORT

OSCARE endeavours to promote maximum peer support among burns victims. No one is better placed to exchange expe-

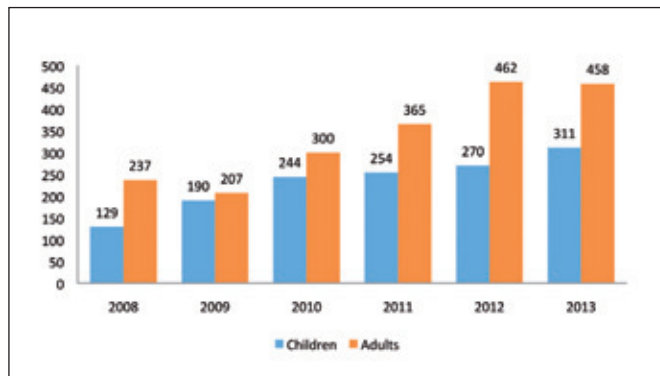


Figure 2. Number of patients.

riences and tips on how to deal with burns than other burns victims. With that in mind, OSCARE organises events where burns victims are given the opportunity to meet in an informal setting. Peer support fosters the integration of patients and can help them in sustaining their rehabilitation compliance.⁶

Every year, several get-togethers are held for burns patients and their families and for staff and sympathizers of OSCARE. Special attention goes to children, with an annual St. Nicholas party and a children's show for paediatric burns victims and their siblings.

Research

In our research department 'Innoscar' we mainly investigate effects of new products, medical devices and 'non-invasive' medical techniques in order to map possible effects in which patients could benefit from new treatment options. Research can be investigator (organisation) initiated or on demand (commissioned by the industry).

By integrating scientific research, OSCARE strives to help improving the quality of scar treatments and finally quality of life. OSCARE pays the research staff from its own resources.

Several scientific studies are in progress (vertical follow-up; defibrosing-techniques; microdermabrasion; laser treatment; microneedling; shockwave; Gecko[®] Nanoplast[®], etc.), in partnership with universities, knowledge centres and industry. Results are presented at scientific conferences and published in scientific journals.^{2,3,4,6}

Education

THE NEED FOR EDUCATION: “CARING THROUGH SHARING”

To date, a specific multidisciplinary educational course for the treatment of burns and scars is lacking in Belgium.⁷ These topics are briefly mentioned in training courses for General Practitioners, Surgeons, Nurses, etc. However, certified educational programs in Scar Therapy do not exist worldwide.

Burn and scar patients now often end up at Therapy Centres or independent therapists without specific knowledge of the treatment of scars. Since a wide variety of specialised scar treatments exists, it is regrettable that not all patients can profit from those treatments. The lack of specific knowledge and skills can also cause severe adverse effects. The implications of incorrect treatments can lead to further disfigurements and psychological trauma.

SCAR ACADEMY

That is exactly why OSCARE set up Scar Academy in 2010

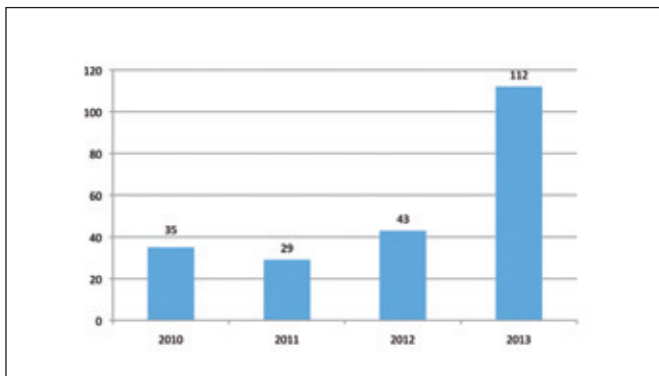


Figure 3. Number of participants Scar Academy.

in Flanders, Belgium. Scar Academy is an educational program to improve general knowledge on the subject of scar treatments among healthcare professionals who are likely to be confronted with burns and scars. We offer a multidisciplinary program to give health care practitioners like nurses, occupational therapists, physiotherapists, psychologists and physicians, an insight into the other disciplines involved in the treatment of burn injuries. Next to that specialised training for the respective professions can be implemented. Our guiding principle is that *'every patient is entitled to the best possible care!'*. All participants receive a Scar Academy Handbook. The curriculum is built upon three levels and supported by an international Faculty of experts in the field of burns and scars: Level of Knowledge, Level of Skills, and Level of Excellence.

Basic Module – Level of Knowledge

The basic module or baseline level is aimed at all the members of the multidisciplinary team treating scars. It consists of a minimum of 20 hours of training on all the aspects of scar treatment. After a knowledge-test the participant can obtain a "Level of Knowledge"- certificate. The Level of Knowledge is a prerequisite to attend further deepening into workshops or internships.

Practical Modules – Level of Skills

Specialised workshops with hands-on training of care-providers within the limits of their profession. After a knowledge-test the participant can obtain a "Level of skills"- certificate. This certificate is required for admission to the next level.

Completion Module – Level of Excellence

Fellowships, initiating scientific research around scar treat-

ments. This can be implemented in Scar Academy approved Knowledge Centres.

REFERENCE NETWORK

All participants who obtained a certificate are registered in a central database of educated care-providers. This database is distributed towards all prescribers of care in the respective countries.

Scar Academy already exists in Flanders (BE), Walloon (BE), and United Kingdom. Up till now more than 200 Health Care Providers (*Figure 3*), mainly Medical Doctors, Physiotherapists and Nurses have followed the basic module in Belgium and the UK or followed a hands-on workshop physical scar treatment at our Scar Academy.

The idea is to develop a broad learning and training network worldwide on the treatment of scars.

Prevention

OSCARE also stages prevention and awareness campaigns to reduce the number of burns victims. Yearly some extra attention goes to specific themes like Safe Barbecuing, Sensible Sunbathing and Safe Christmas.

Prevention classes are given to pupils, students, associations and all sorts of service clubs. Besides OSCARE holds information stands all over the country to give information about burns and to sensitize.

OSCARE produces prevention materials (such as a fire prevention comic/workbook, leaflets, informational websites etc.) which are targeted at a wide audience.

FUNDING

OSCARE is financially sustained by private donations, sponsoring from companies, fundraising events, legacies and is not structurally supported by the government.

Conclusion

Burn care is a rapidly evolving environment that constantly yields new knowledge, including new forms of treatment, products and technologies. We strongly believe that a new burn care model integrating aftercare, research and education could work as a strong catalyst to finally enlarge quality of life in patients. New organisational models in burn aftercare could give answer to an increasing trend towards more ambulatory integrated care supported by an integrated burn (after)care network involving all stakeholders. ■

References

1. OSCARE. (2014). 2013 annual report of OSCARE. Retrieved from <http://www.oscare.be/jaarverlagen>
2. Moortgat P, Lafaire C, Dom Y, Douws P, Van Tichelen J, Maertens K. The effect of PRUS® depressomassage on the elasticity and skin fold thickness of burn scars. EBA congress 2011 at The Hague, Netherlands, 14-17 sep 2011, oral presentation.
3. Anthonissen M, Meirte J, Moortgat P, Lafaire C, Maertens K, Daly D, Van den Kerckhove E. The effects of depressomassage on transepidermal water loss rate and erythema in burn scars. ISBI congress at Edinburgh 10-13 sep 2012, oral presentation.
4. Moortgat P, Lafaire C, Maertens K. Can microneedling improve persistent redness in burn scars? ISBI congress at Edinburgh 10-13 sep 2012, oral presentation.
5. Bakker A, Maertens K, Van Son M, Van Loey N. Psychological consequences of pediatric burns from a child and family perspective: A review of the empirical literature. *Clinical Psychology Review*, 2013; 33: 361-71.
6. Meirte J, Van Loey N, Maertens K, Moortgat P, Hubens G, Van Daele U. Classification of Quality of life subscales within the ICF framework in burn research: identifying overlaps and gaps. *Burns*, JBUR-D-13-00317R1 [Accepted for publication].
7. Christiaens W, Van De Walle E, Devresse S, Van Halewyck D, Dubois C, Benahmed N, Desomer A, Vandesande S, Van Loey N, Paulus D, Van Den Heede K. Organisation of aftercare for patients with severe burn injuries - Synthesis. Health Services Research (HSR) Brussels: Belgian Health Care Knowledge Centre (KCE). 2013. KCE Reports 209. D/2013/10.273/71.

Conflict of interest: The authors have no conflict of interest with regard to this publication.