Case Study 1


Day 90


Day 150


Day 240

Patient Profile: Patient is a 84 year old male with poor peripheral circulation in both legs due to large varicose veins and old age.

Wound: A large, sloughing ulcer due to severe cellulitis of his leg.

Treatment before Cerdak: Penicillin antibiotic with povidone iodine dressings, followed by surgical debridement in hospital with continued oral antibiotics and iodine dressings. The patient subsequently declined further admission for surgical treatment.

Cerdak™ WTD: Cerdak ceramic placed between two pieces of sterile gauze and applied to the wound as a dressing. Changed daily.

Additional treatment: Penicillin and paracetamol. Usual treatment for hypertension and renal failure.

Result: Considering the age and condition of the patient and the nature of the wound**,** there was excellent improvement with quality epithelialisation.

Comment: Case study is incomplete because the patient died 3 weeks after the last photograph, due to multi-organ failure.

Case Study 2


Day 2


Day 56


One year follow up

Patient Profile: Patient is a 72 year old female with poor peripheral circulation in both legs due to varicose veins, obesity and age. She had had an ulcer in the same position a year before.

Wound: The wound was a granulating varicose ulcer on a bed of hyper-pigmented skin secondary to the inflammation of a previous ulcer. The ulcer started 6 weeks prior to this first visit.

Treatment before Cerdak: Traditional African medicine only. Details unknown.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. Changed daily.

Additional treatment: No antibiotics were administered either topically or systemically. Paracetamol for pain. Furosemide 20 mg 1 x per day and Potassim Chloride 600mg per day.

Result: Excellent healing with new, quality skin.

Comment: Patient could not afford an elastic compressive stocking as would have been indicated for use in her case. She lived in hut made of sticks and mud with very rudimentary ablution facilities. Cerdak™ deodorized the wound near completely. The rate of healing was above expectation, especially in the presence of old scar tissue.

Case Study 3


Day 2


Day 32


One year follow up

Patient Profile: The patient is a 64 year old male with a laceration on the left forearm caused by a sharp, protruding nail in a wall.

The wound: He presented 18 hours after the injury with an uneven tear in the skin. The free edge of the torn skin was clearly necrotic along the edge and the flap had begun to retract.

Treatment before Cerdak: Due to the age of the injury and the necrotic, very thin free edge of the skin, it was decided not to attempt suturing of the wound.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. Changed daily. No further treatment was required after day 16, as the wound had healed sufficiently by then and had formed a stable scab.

Additional treatment: He was given 0,5cc of Tetanus Toxoid i.m.i.

Result: Excellent healing with new quality skin by day 32. Only minimal scarring visible at one year follow up. Normal functional and exceptional cosmetic result.

Comment: He continued to work as usual throughout the treatment.

Case Study 4


Day 0


Day 26


Day 143

Patient Profile: The patient is a 27 year old female who presented with a post-traumatic ulcer on the medial part of the left lower leg.

Wound: The ulcer was septic and deep with varied pockets of granulation tissue.

Treatment before Cerdak: Antiseptic ointment had been applied for 10 days.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. Changed daily. No further treatment was required after day 43.

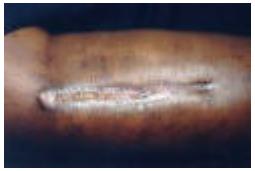
Other treatment: Asprin 600mg 3 x per day was the only other treatment given.

Result: The wound was completely healed by day 43. Healing was uneventful, although seemed somewhat slow, as the patient defaulted on the CERDAK WTD's for two periods of 5 days and 7 days respectively.

Comment: The patient treated the wound at home herself. She was absent from work for only one day and for a few hours during follow up visits. Patient did not return for a follow up picture until several months later.

Case Study 5


Day 0


Day 26


Day 143

Patient Profile: The patient is a 24 year old woman who had suffered a gunshot wound to her leg with subsequent development of a compartment syndrome.

Wound: Large linear open surgical decompression wound of lower leg.

Treatment before Cerdak: The leg was treated by decompression fasciotomy in hospital. She was discharged on day 10 when the leg had stabilized. She was given povidone iodine ointment to dress the large remaining surgical defect. Healing at this time was slow and painful.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. Changed on alternate days.

Other treatment: Nil

Result: The wound granulated and re-epithelialised completely in 26 days. The wound is completely healed by day 42.

Comment: She had formed good granulation tissue when seen for the first time, but had no one at home able or trained to dress the wound daily. Attending our surgery or a local clinic on a daily basis for dressings would be very costly to her. She was unable to afford the actual cost of travelling, the treatment and time absent from work.The patient went back to work on day 3 of CERDAK treatment. She had almost no pain.

Case Study 6:

Leg


Day 0


Day 6


Day 26

Toe


Day 0


Day 6


Day 26

Patient Profile: The patient is a 15-year-old male with large, 6-day-old leg and foot ulcers due to typical lesions of staphylococcal impetigo.

Wound: Cratered septic ulcers on his toe and leg, typical of staphylococcal infections.

Treatment before Cerdak: Mercurochrome tincture for a few days.

Note: It was decided to do a comparative treatment by applying a povidone iodine ointment to the ulcer on the shin and only Cerdak on the toe. This additional test was done outside the scope of the protocol and is included for information purposes only.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. Changed on alternate days.

Other treatment: A 5 day course of Cotrimoxazole 2 tabs b.d. Paracetamol 500g tablets 1 tablet as required only. He did not take any.

Result: Both ulcers were clean and granulating well at the first follow up on day 6, the toe lesion much smaller than before. On day 26 the toe was completely healed. The leg ulcer was still being treated by topical iodine and was not showing good signs of healing.

Comment: Due to the marked difference in healing no further comparative tests were done.

Case Study 7


Day 0


Day 12


Day 240

Patient Profile: The patient is a 34 year old farm worker who had accidentally cut his finger on a piece of wire 18 hours before the first photograph was taken.

Wound: Full thickness laceration of the skin with swelling and inflammation of skin edges and sub-cutaneous tissue.

Treatment before Cerdak: A topical disinfectant was applied, detail of the chemical used not known. It was covered with a dirty rag.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. Dressings were changed on alternate days.

Other treatment: The patient initially received only intra-muscular Tetanus Toxoid 0.5 cc and Asprin 600 mg for pain. No systemic antibiotic was given. Note: Due to the age of the wound and the swelling of the finger, it was decided not to attempt suturing of the wound.

Result: The patient returned on day 12 for follow up when the wound was found to have healed completely.

Comment: This was one of the first open wounds treated with Cerdak which should have been sutured primarily had the patient presented earlier. The result showed an excellent cosmetic result. Skilled cosmetic suturing could not have produced better.

Case Study 8


Day 0


Day 6


Day 16

Patient Profile: Patient is a 52 year old tractor driver on a sugar cane farm (male) with non insulin dependent diabetes.

Wound: He presented with a septic 5mm diameter ulcer of his right dorsal foot. The ulcer was surrounded by mild cellulites. He did not have a history of trauma to the ulcerated area and his blood sugar was 8.2 mmol/l at the time of the first consultation. He does not have diabetic neuropathy of his feet. He was given a 5 day course of Cotrimoxazole 2 tablets 2x per day.

Treatment before Cerdak: Nil

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing. As the wound was relatively dry and not producing a great deal of pus, dressings were changed on alternate days.

Other treatment: Cotrimoxazole two tablets twice per day for five days. He returned on day 6 of treatment with good signs of healing.

Result: The patient finally returned on day 16 of treatment with the defect completely closed and no further treatment required. There was a period of two days during the treatment time that he had not applied the CERDAK , but had applied an iodine dressing.

Comment: He continued to work normally from day 2 of treatment.

Case Study 9


Day 0


Day 8


Day 38

Patient Profile: The patient is a 12 year old male who was attacked by a dog.

Wound: A single torn laceration of 7cm long on the left forearm.

Treatment before Cerdak: None

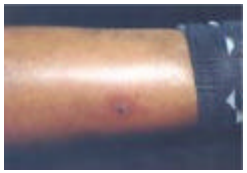
Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by his mother at home. As the wound produced a moderate amount of exudate, dressings were changed daily.

Other treatment: He was treated with Tetanus toxoid 0.5 cc i.m.i., Cotrimoxazole 1 tablet twice per day, Paracetamol 500 mg four times per day.

Result: The wound became comfortable on day 2 of Cerdak treatment and pain free by day 5. The wound healed with a sturdy scar by day 32.

Comment: Unfortunately the patient did not return for a long term follow-up picture.

Case Study 10


Day 0


Day 10


Day 33

Patient Profile: The patient is a 45 year old school master with non insulin dependent diabetes.

Wound: He presented with a painful ulcer of the right lower leg. His blood sugar was measured at 16.25 mmol/l.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: He was treated with Cotrimoxazole 2 tablets 2 x per day and Diclophenac sodium 25 mg 3 x per day.

Result: The inflammation and pain settled within 3 days. By day 10 the ulcer had desloughed and was clearly healing. No further oral treatment was given, but the patient was given fresh dietary advice and was asked to return for follow up measurements of blood sugar. It was still above the 12 mmol/l level. He returned on day 33 with the wound healed, but as his blood sugar level was still above 15mmol/l, he was referred to a specialist diabetes centre for counseling and expert treatment by a team of diabetic healthcare professionals.

Case Study 11


Day 0


Day 6


Day 28


Day 47

Patient Profile: The patient is a 57 year old housewife who had undergone a mini foramenotomy for spinal nerve root pressure 10 days before the first picture.

The wound: On removal of the wound clips the wound looked inflamed. Two days later it was clearly infected, swollen and painful.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's husband at home.

Other treatment: She was given a five day course of Amoxycillin and Clavulanic acid (375 mg) in fixed combination.

Result: From day 5 she had no more pain from the wound itself. Healing was uneventful except for minor skin irritation due to the use of adhesive paper tape to keep the Cerdak in place. The wound was completely healed with a stable scar on day 47.

Comment: Post-operative sepsis can be problematic to clear and may compromise good operations. The Cerdak has cleared up this problem easily, at low cost and at home.

Case Study 12

Day 0 Day 10 Day 24 Day 180

Patient Profile: Patient is a 39 year old female with a venomous bite (possibly a spider) on the sole of her foot. Patient was first seen on day 6 after the injury.

The wound: The lesion had a small area of central necrosis about 5mm in diameter and 3 mm deep with an area of hyperaemia, about 25 mm by 35 mm where the skin looked injured.

Treatment before Cerdak: None

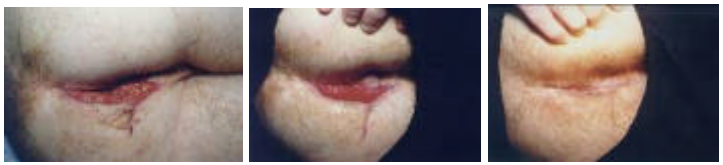
Cerdak™ WTD: Cerdak devices applied to the wound as a dressing, by the patient herself, at home. Dressings were changed on alternate days.

Other treatment: None

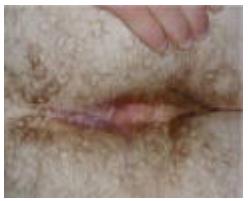
Result: She returned for follow up on Day 10 of treatment. The dead skin had come off to its full extent. The base was completely clean and covered by healthy granulation tissue. Re-epithelialisation was in rapid progress. The patient returned finally on Day 24 of treatment with the defect completely closed and no further treatment was required.

Comment: The patient continued to work throughout her treatment and had only mild discomfort from the slightly bulky dressing on the bottom of her foot.

Case Study 13



Day 8 Day 18 Day 38



Day 366

Patient Profile: The patient is a 25 year old male who was involved in a car accident.

Wound: He sustained an injury to his left buttock area extending from the edge of the gluteal fold into the external sphincter of the anus. A laceration extended 5cm. laterally from the lower edge of the injury. The sphincter defect was repaired surgically in a nearby hospital. The repair was successful. The patient declined to have a colostomy done to cut off the faecal stream from passing over the injured area. He rather opted to see if the wound would heal without such drastic measures.

Treatment before Cerdak: Povidone iodine and cleaning daily using Savlon with paraffin gauze cover.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home. Dressings were changed daily without cleaning. Intervals of change varied (see below).

Other treatment: Cotrimoxazole 2 tabs b.d. and Metronidazole 400mg b.d. and analgesics as required for the first 3 weeks of treatment.

Result: He was started on Cerdak on day 8 of the injury. By the 5th day of use of Cerdak twice per day, after a 5 minute sit-bath in diluted Savlon, the wound showed good granulation and de-sloughing. He was out of bed by this

time and his pain well controlled by no more than moderate strength oral analgesics once or twice per day. His wound was now easily treated by his mother who had no objection to applying the Cerdak at home for him. Day 18 of the Cerdak treatment clearly illustrates the rapid healing, good quality granulation tissue and the steadily advancing edge of good quality skin covering the defect. The wound was completely healed by day 45.
Long term follow up after 3 months showed good healing with minimal scarring.

Comment: The patient requested to go back to work on day 20. He worked on a farm in Mozambique. He was allowed to go without fear of any complications in the light of the steady, positive healing he had shown up to this point with the CERDAK treatment protocol.
Healing took place despite continued contact with the faecal stream at leat once per day and no available trained nursing care where he worked.

Case Study 14


Day 0


Day 4


Day 56

Patient Profile: The patient is a 31 year old farm worker who sustained a human bite injury to his right hand two days before the first consultation.

Treatment before Cerdak: None

Wound: Irregular full thickness laceration on the knuckle of the left index finger with retracted edges as septic granulation tissue. It was feared that he would lose some of the retracted and injured skin.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: He was given 2.4 million units of Benzathine penicillin intra-muscularly, 600mg aspirin 3 x per day for 5 days. He still had pain on the first follow up visit on day 4, but markedly reduced on the second visit on day 19. Due to remaining sepsis of the hand the patient was given a second injection of penicillin on day 4.

Result: He returned on day 56 and on questioning, reported that the wound had healed by day 26.

Comment: Human bites pose a particular problem with sepsis and poor healing due to the contamination by human saliva.

Case Study 15

Day 0 Day 43 Day 240

Patient Profile: The patient is a 7 year old male who had undergone an orchidopexy for a mal-descended testis on the left side.

Wound: A 6cm dehisced surgical wound, approximately 1,5 cm at the deepest part with a granulated base.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home. The dressings were changed every day for the first week and then every second day when less exudate was produced.

Other treatment: None

Result: Granulation and healing of the suture line proceeded without difficulty. The wound was healed on day 47.

Comment: Follow up at 8 months showed a minimalistic scar, emphasizing the fact that healing here had proceeded normally. The Ceramic appeared to have optimised the process with an excellent long term result.

Case Study 16

Day 0 Day 6 Day10

Patient Profile: The patient is a six year old male who fell at school, injuring his leg.

Wound: A full thickness laceration 6 cm of the skin on the lower edge of his left patella.

Treatment before Cerdak: The wound was literally soiled and it took a great deal of time, under local anaesthesia to clean out the soil and pieces of dirt. It was then sutured, but became septic a few days later. The sutures opened up. The sutures were removed on day 8 to reveal sepsis of the surface of the wound and unsatisfactory healing.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: None

Result: The wound recovered without further problems. His pain disappeared on day 2 and the wound had a small, stable scab by day 10.

Comment: The eventual cosmetic result appeared surprisingly good, taking into account the appearance of the gap on the day the sutures were removed. Unfortunately the patient did not return for long term follow up pictures.

Case Study 17

Day 0

Day 0

?

Day

Patient Profile: A 41year-old female patient who accidentally cut her leg when she fell.

Wound: 5 cm laceration on lower leg

Treatment before Cerdak: Laceration cleaned with Nogerm® and the wound then stapled under local anaesthetic.

Cerdak™ WTD: Cerdak devices applied to the wound as a primary wound dressing in the surgery and patient instructed to replace it after 24 hours.

Other treatment: None

Result: Healed by Verbal Report - Wound healed normally with very little inflammation, reported by the associate doctor in the practice. The camera was not available on the day the patient returned.

Comment: The use of Cerdak leads to visibly less inflammation of the suture line and acts as a prophylactic against surgical wound sepsis. The probable effect is a mechanical disinfectant one. Unfortunately the camera was unavailable at the time of the removal of staples.

Case Study 18

Day 0

Day 6

Day 156

Day 211

Patient Profile: Patient is a 24 year old female with a septic ulcer of her left lower leg due to a gunshot wound. Patient was first seen 14 days after the injury. She had been treated in a regional hospital with her sister who had been shot through the hip and leg.

Wound: Granulating, septic lower leg wound approx. 7cm x 5cm on the medial aspect of the left lower leg.

Treatment before Cerdak: Povidone Iodine and Eusol dressings with paraffin gauze. The wound was grossly septic and the ankle swollen and hot.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient herself at home. She defaulted on the use of the Cerdak a number of times during the course of treatment. For weeks on end she would just cover the ulcer with a dirty bandage.

Other treatment: She was given a 5 day course of Oxytetracycline 250 mg 4 x per day and Aspirin 600 mg 3 x per day . By day 6 the wound was much cleaner and the antibiotic, etc. were repeated. She did not return after day 6 for a long time.

Result: The patient did not attend her follow up visits regularly, and defaulted off the Cerdak treatment for weeks on end. In spite if this her wound healed after several months, even if the medium term result does not show the best of cosmetic results.

Comment: Unsatisfactory treatment due to circumstances.

Case Study 19


Day 0


Day 12

?
Day

Patient Profile: The patient is a 19 year old student who spontaneously developed ulcers all over her back and posterior upper limbs.

Wounds: Lange, deep, eroded (cratered) skin ulcers. No history of injury or specific infection. Diagnosis was uncertain, but auto-immune process was suspected.

Treatment before Cerdak: Various dressings, antibiotics and other treatments, but details are unknown.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: Cotrimoxazole 2 tabs 2x per day; Prednisone 5mg tablets 1 2x per day; paracetamol 500mg tablets 2 tabs 3 x per day.

Result: The wounds healed reasonably well, but new broken down areas would be noted on follow up examinations. Patient was referred for a dermatological opinion and biopsy proved the problem to be Pyoderma Gangrenosum.

Comment: This condition results from an immunity based pathology and can not be cured by simple application of any dressing. It requires an integrated approach of treatment. Patient was referred to King Edward Hospital, Durban.

Case Study 20


Day 0


Day 240

Patient Profile: The patient is a 31 year old male who sustained a moderately deep second degree burn on his forearm on the exhaust pipe of a motorcycle.

Wound: Second degree burn on his forearm with initial blistering.

Treatment before Cerdak: Tincture of Merthiolate applied at home by the patient for two days.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient himself at home.

Other treatment: None

Result: Uncomplicated healing with a very good cosmetic result.

Comment: This is not a serious injury, which made an uneventful recovery to expectation, but showed that burn wounds are amenable to the use of Cerdak.

Case Study 21


Day 0


Day7


Day 43

Patient Profile: The patient is a five and a half year old male.

Wound: A large ulcerated area on the left forearm due to probable staphylococcal infection. Loss of pigmented epidermis. The wound had started 10 days prior to the first consultation.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: Benzathine penicillin 0.48 million units as an intra-muscular injection, Paracetamol 125 mg every four hours.

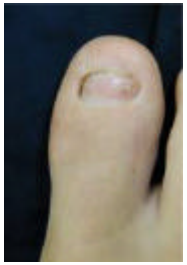
Result: By day 7 the patient had achieved good healing and no treatment other than the CERDAK WTD was given. The wound was completely healed by day 36 and by day 43 the skin had evenly pigmented the injured area.

Comment: The Cerdak dressings were changed every 3rd day in the surgery as the patient's mother declined to change them at home. The wound healed with virtually no scar tissue formation. Repigmentation was early and nearly complete after 6 weeks.

Case Study 22


Day 0


Day 7


Day 43

Patient Profile: The patient is an 11 year old male who developed an infection of the right big toe after an injury.

Wound: Septic nail fold and nail bed with loss of the nail plate and a septic granuloma on the nail bed.

Treatment before Cerdak: Povidone iodine dressing and two courses of oral amoxicillin.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: A short course of cotrimoxazole 1 tablet 2 x per day for 5 days.

Result: He experienced good pain relief from the third day of Cerdak use. He returned on day 8 with good improvement. He returned finally on day 35 with complete healing of the toe.

Comment: Infections in and around the toe or nail bed are problematic to treat and generally heal with difficulty due to the complex anatomy. The Cerdak WTDs have proven to provide a very user-friendly solution.

Case Study 23


Day 0


Day11


Day 24


Day 37

Patient Profile: The patient is a 34 year old housewife and mother of two who had delivered her second child by Caesarian section three weeks before the first picture.

Wound: The puncture wound on the side of the Pfannenstiel incision did not heal and was continually oozing serous fluid.

Treatment before Cerdak: She had been treated with povidone iodine dressings after first cleaning the wound daily with Eusol.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient herself at home.

Other treatment: None

Result: Initially the wound healed well, but after about 9 days a second wound, adjacent to the first lesion opened up on the scar. The skin now appeared to have developed an allergy to the Micropore adhesive tape. It was decided to stop all treatment for 48 hours and then to resume without the adhesive tape. A moderate strength topical cortisone cream was applied to the irritated skin during these two days. Upon resumption of the CERDAK treatment, the skin immediately became irritated again, when the patient realised that it was the hypochloride solution that was to blame. Wounds were both healed by day 34.

Comment: The patient treated the wound at home and continued to do her house work as usual.

Case Study 24


Day 0


Day 3


Day 31

Patient Profile: The patient is a 76 year old male who was bitten by a dog.

Wound: The 4th and 5th fingers sustained deep lacerations and puncture wounds. The worst wound was the one on the ulnar aspect of the 5th finger. Some of the flexor tendons were visible and almost two thirds of the length of the finger was involved.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: The wounds were cleaned under local anaesthetic with hypochloride solution. The major wound was then loosely sutured, mainly to try and achieve some tissue cover of the exposed tendons. The patient was given 0,5 cc of anti-Tetanus toxoid imi., mefanamic acid 250 mg 2 caps 3 x per day for pain and amoxycillin 250 mg 3 x per day.

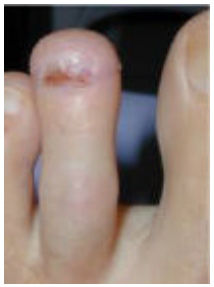
Result: Day 1 showed wounds with a lot of swelling, but clean and still quite painful. By day 3 the wounds were very septic and the sutures were removed. Only the Cerdak WTD's were applied from then onwards. The standard treatment protocol was followed. The main wound had healed by day 29. The other wounds had all already healed by this time.

Comment: Despite the gravity and nature of the injury, the wounds healed at home without any problem in a patient of relatively advanced age.

Case Study 25


Day 0


Day 3


Day 21

Patient Profile: The patient is a 22 year old female who sustained an accidental injury to her left second toe. A man stumbled and stepped heavily onto her toe with the heel of a golf shoe.

Wound: Deep abrasion/contusion of nail fold and bruising of pulp of 2nd toe left foot. Full-thickness skin loss of 80% of nail fold. Nail plate loose.

Treatment before Cerdak: The patient had been treated with povidone iodine dressings and amoxycillin 250 mg 3 x per day for 10 days prior to the first consultation.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: None

Result: The pain eased by day 3 and showed clear signs of new epithelium covering the denuded areas. She lost the nail plate on day 17, but the toe was all but completely healed by day 21.

Comment: The healing proceeded without effort after starting treatment with the Cerdak WTD's.

Case Study 26


Day 0


Day 3

?
Day

Patient Profile: The patient is a 27 year-old farm worker who had cut his arm on a sharp metal object 24 hours before the photograph was taken.

Wound: 7cm Full-thickness laceration older than 12 hours.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: Cotrimoxazole 2 tabs 2x/day, Aspirin 600mg 3 x per day for 5 days.

Result: The patient did not return for follow up pictures.

Comment: Result unknown.

Case Study 27


Day 0


Day 44


Day 123


11 Months

Patient Profile: The patient is a 34 year old female patient who suffers from Multiple Sclerosis. She tripped and fell on some stairs onto a rough, paved surface whilst away on holiday.

Wound: She had a deep laceration of the upper shin. The wound was treated by suturing under tension in a hospital where she was on holiday. When she returned home the wound became gangrenous with an area of demarcated dead skin. She underwent surgical debridement in three stages and was left with a large defect. She had a large area of exposed tibia visible.

Treatment before Cerdak: Surgical debridement and povidone iodine dressings on the open wound with the view to doing a skin graft.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: Amoxycillin/clavulanic acid 375 mg 3 x per day for 21 days. The patient required a course of Ciprofloxacin 250 mg 2 x per day from day 123 to 133 when the healing was slowed down by an infection by *Pseudomonas aeruginosa*..

Result: Granulation of the bare tibial surface increased rapidly. The wound filled up with granulation tissue whilst contracting simultaneously from the edges. Treatment was continued at home. Granulation of the bare tibial surface increased rapidly. The wound healed completely after 11 months and remained healed after 2 years.

Comment: The patient had run out of medical aid funds by the time the initial debridement had been done. She requested not to have further surgical treatment as she could not afford it. Although the total healing time was slow, it produced a good quality healing.

Case Study 28


Day 0


Day 2


Day 10

Patient Profile: The patient is an 8 year old child who presented with a venomous bite in his neck. From the puncture marks it looked like a spider bite.

Wound: Two inflamed plaques on the left side of neck. Tissue swollen with signs of early central necrosis.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home. Dressings left in place for 48 hours at a time.

Other treatment: Prednisone 5 mg 2 x per day for 3 days. Paracetamol 250 mg 3 x per day p.r.n.

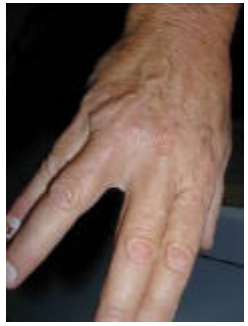
Result: By day 2 the inflammation was much better and marginal-looking tissue had recovered to look more vital. On day 10 virtually no sign of the injury visible at all.

Comment: The reduction of tissue damage is clearly visible and has been encountered in other cases using Cerdak WTD's. The combination of the Cerdak and low dose prednisone appears to be very successful in preventing significant tissue loss.

Case Study 29


Day 0


Day 7


Day 43

Patient Profile: The patient is a 54 year old investigator for a private firm, bitten by his own dog when the animal suffered an epileptic seizure.

Wound: A laceration between the 4th and 5th fingers of the right hand. Some smaller lacerations and puncture wounds, not clearly pictured.

Treatment before Cerdak: None

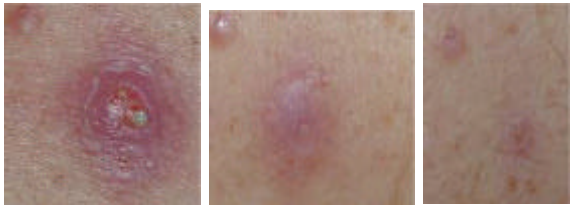
Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: Amoxycillin 500 mg 3 x per day, paracetamol 1000 mg tablets 3 x per day, diclophenac sodium 50 mg 3 x per day and 0,5 cc Tetanus toxoid i.m.i stat.

Result: The patient works away from home and he reported on day 31 by telephone that the wounds were healing steadily. He returned on day 57 with complete healing and a good cosmetic result.

Comment: Injuries due to dog bites are common and often problematic as suturing of such wounds carry a significant risk of sepsis. The cosmetic result obtained here without suturing is good.
This provides the option of treating such wounds without primary suturing.

Case Study 30



Day 0 Day 7 Day 150

Patient Profile: The patient is a 54 year old male with a history of slow healing of skin injuries and infections.

Wound: The patient presented with two large (more than 15mm diameter) boils on his back.

Treatment before Cerdak: Covered with plasters only.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: Amoxycillin and clavulanic acid 375 mg, 1 tablet 3 x per day and mefanamic acid capsules 500mg 3 x per day and CERDAK WTD's as the topical treatment.

Result: The patient returned on day 7 with both lesions healed, although still somewhat inflamed as is clearly seen on the second picture. He had little pain from day 2 of use of the Cerdak. After five months the healing is stable with virtually no scarring.

Comment: Useful treatment in a patient with a history of "difficult to clear" boils.

Case Study 31

Day 0 Day 27 Day 300

Patient Profile: Patient is a 65 year old male with an ulcer which had developed in scar tissue after an orthopaedic operation a few years before.

Wound: A deep longitudinal ulcer with a granulating base, about 6cm x 1,5 cm wide.

Treatment before Cerdak: About 6 different types of dressings over a period of 12 weeks.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: The patient wore an elastic support stocking over the dressing.

Result: The ulcer took "for ever" to close, but finally did after about 8 months. The scar still looked unstable and the prognosis for long term stable healing was at best guarded.

Comment: Lower leg ulcers are some of the most difficult wounds to treat successfully and keep healed long term. The reduction in micro-circulation and the mechanisms involved in repair of compromised skin like this are complex and not very well understood.

Case Study 32


Day 0


Day18


Day 60

Patient Profile: The patient is a 73 year old pensioner who had hurt his lower leg five months prior to the first photograph.

Wound: Deep, indurated ulcer on lower leg 5,5cm x 1.8cm at the widest with large inflamed area around the ulcer and yellow slough in the base.

Treatment before Cerdak: The leg had been treated by several different treatments without healing. By now the leg was very swollen and edematous.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's wife at home.

Other treatment: Antibiotic course given according to the culture taken from the base of the ulcer. The patient started to wear a compressive elastic support stocking over the dressings.

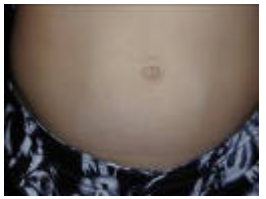
Result: By day 19 some of the marginal tissue had sloughed and the ulcer was bigger, but showed clear signs of healing. By day 62 the wound had closed about 60% with healthy looking new tissue. The patient relocated to Gauteng and was lost for further follow up.

Comment: He did report telephonically that the wound had completely healed by day 98.

Case Study 33


Day 0


Day 25


Day 330

Patient Profile: Five year old female who sustained a second degree burn with large blisters on her lower abdomen by accidentally pressing against a hot kettle braai. (Barbeque)

Wound: Blistered 2nd degree burn of the abdomen around the umbilicus.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: Cotrimoxazole 5 ml twice per day for five days. She was given mefanamic acid 125 mg every four hours for pain control for 5 days.

Result: The wound healed rapidly and she continued to attend her pre-primary school from day 3 after the injury. She had little pain from day 2 onwards, except when "the other children bumped into my tummy". The quality of healing is excellent at day 25 and the skin seems to be gradually returning to normal colour as well. Vitamin A cream (Environ) has been applied from day 25 onwards.

Comment: At 9 months large islands of normal pigment are appearing and it is hopeful that the skin will be of normal colour in another 12 months or so.

Case Study 34


Day 0


Day 8


Day 29


One and half years

Patient Profile: Patient is a 27 year old male who sustained a laceration to his lower leg on a sandy beach.

Wound: A 7cm full thickness laceration contaminated by sand and soil. The injury was caused by a piece of rusty metal.

Treatment before Cerdak: Pressure dressing to stop the bleeding only.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: The wound was cleaned and primarily sutured. The soiling is normally associated with a higher risk of sepsis. He was given 0,5 cc of anti-tetanus toxoid and cotrimoxazole 2 tablets 2x per day for 7 days.

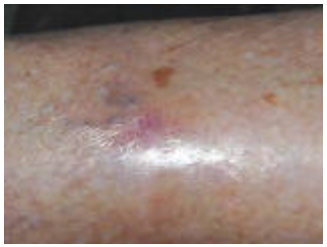
Result: The wound healed without incident and remained clean throughout the process.

Comment: The lower legs have poor circulation compared to most other parts in the human anatomy. Lacerations, especially soiled ones present a special challenge. This wound reacted very well to very conservative treatment and allowed the patient to remain active in his work.

Case Study 35


Day 0


Day 7


Day 37


Day 360

Patient Profile: The patient is a 73 year old female who injured her leg when she was accidentally scraped by her dog's lead.

Wound: The wound on the right lower leg was already 5 days old and septic when first seen.

Treatment before Cerdak: Povidone iodine and a simple gauze bandage.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: The patient was treated with tetanus toxoid 0,5 cc i.m.i., amoxycillin 500 mg 3 x per day and paracetamol 1000 mg 3 x per day, all for only five days.

Result: The leg healed uneventfully in 37 days despite the age of the patient, very thin aged skin, the anatomical position of the wound and the septic nature of the wound.

Comment: This elderly patient was treated at home with minimal medication and very simple change of dressing.

Case Study 36


Day 0


Day 7


Day12

Patient Profile: Patient is 32 year old female with an inflamed and infected nail bed and nail fold of right big toe.

Wound: The toe had become infected 10 days before the first picture was taken. The distal part of the nail had lifted up and the patient cut it away to try and drain the infection. The pulp was swollen and inflamed at the time of examination.

Treatment before Cerdak: Povidone iodine dressings.

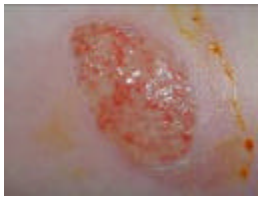
Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: Amoxycillin 250 mg caps 1 cap 3 x per day for 5 days. Paracetamol 500 mg 2 tablets 2x per day.

Result: Uneventful healing over a period of less than two weeks.

Comment: Infections of the nail fold and nail bed extending to the pulp of the digit are notoriously difficult to get to heal because of the complex anatomy. Here as in a number of other similar cases healing took place without much effort.

Case Study 37


Day 0


Day 2


Day 20


Day 120

Patient Profile: The patient is a 26 year old female who accidentally burnt her leg on the exhaust pipe of a motorcycle two days before the first consultation.

Wound: Oval shaped, full thickness 2nd degree burn with visible sub-cuticular layer. The patient came for help because of the pain in the wound and because it started looking septic to her.

Treatment before Cerdak: Povidone iodine dressings daily and paracetamol for pain.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: The patient was given mefanamic acid 250 mg, 2 caps three times per day as an analgesic for 5 days.

Result: By day 13 the wound was dry and appeared healed on the surface. By day 20 the wound had a stable surface and was covered by epithelium. Streaks of normal skin had started forming from the edges towards the center of the wound.

Comment: The patient was followed up at the end of 4 months at which time the burnt area was covered with normal looking skin. The cosmetic result was satisfactory.

Case Study 38


Day 0


Day 4


Day 6

Patient Profile: The patient is a 80 year old female patient who had developed an ulcerated area on the lateral aspect of the right lower leg two weeks before.

Wound: Superficially ulcerated lower leg ulcer without any history of injury.

Treatment before Cerdak: Povidone iodine dressings daily at home and paracetamol for analgesia. The ulcer got steadily larger.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: No additional systemic treatment was given.

Result: The ulcer made an unusually quick "turn-about" with a large area of epithelium repaired by day 4 and complete coverage by 6 days.

Comment: Under good conditions and in the presence of some island of epithelium, rapid and satisfactory healing can be achieved with this treatment method. The age of the patient does not appear to be so important.

Case Study 39


Day 0


Day 30


Day 330

Patient Profile: Patient is a 26 year old male who dived into a shallow swimming pool and broke his neck. He is qudraplegic.

Wound: He developed a large pressure ulcer over the sacral area after being hospitalised for 2 months. The ulcer became infected with Pseudomonas aeruginosa.

Treatment before Cerdak: Various "state of the art" dressings for 30 days. Wound did not heal and showed larger marginal areas developing.

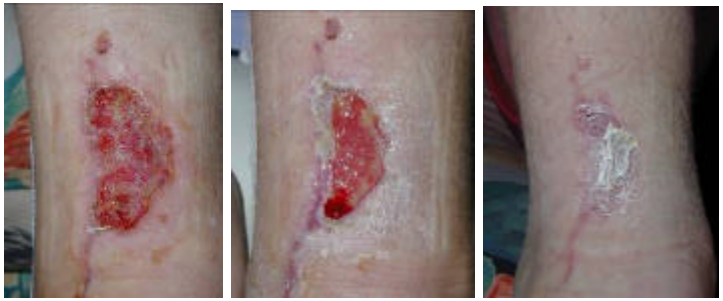
Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the nurses in hospital. The patient was still in rehabilitation.

Other treatment: Ciprofloxacin 500mg 2x per day for 10 days.

Result: The wounds improved within 48 hours and healed uneventfully. Stable long term healing has been achieved.

Comment: A potentially disasterous situation was averted where other so called advanced wound care products had failed.

Case Study 40



Day 0 Day 11 Day 30

Patient Profile: The patient is an 11 year old male with recurrent osteomyelitis of his right tibia. He was first seen 5 days after the surgical debridement of the infected area.

Wound: A 7cm x 4cm crescent shaped granulating skin defect on the anterior right lower leg.

Treatment before Cerdak: It had been treated with povidone iodine dressings after surgical debridement.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: The patient was kept on high doses of flucloxacillin, Vitamin C and calcium supplementation.

Result: The wound made an uneventful recovery whilst it had shown little progress over four weeks on the antibiotic and the iodine dressings.

Comment: Osteomyelitis is a difficult condition to treat & eradicate. From the reaction of the wound to the Cerdak treatment it is clear that the deeper infection must have cleared here, but very gratifying was the uncomplicated way in which the wound healed in a very short period of time with no further surgery or hospital treatment. It illustrates the value of the treatment as a home-based treatment for complicated conditions.

Case Study 41

Day 0 Day 21 11 Months

Patient Profile: The patient is a 63 year old male who works as a cabinet maker and carpenter. He was accidentally pricked on the shin by a piece of wood that he described as "toxic".

Wound: He developed a painful, infected ulcer over the shin within 48 hours.

Treatment before Cerdak: The patient had applied antiseptic ointment for two days with no improvement in the leg before seeking help.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: He was treated with a 5 day course of amoxycillin and clavulanic acid 375mg combination, paracetamol 1g 3 times per day and CERDAK WTD's as topical treatment.

Result: The wound healed steadily and was closed with stable cover by day 24.

Comment: The patient was treated at home, applied the Cerdak™ devices according to the new standard treatment protocol. He experienced minimal pain and was able to continue with his work throughout the treatment period.

Case Study 42


Day 0


Day 3


Day 11


Day 60


Detail of skin day 60

Patient Profile: The patient is a three year old female who was burnt on her right lower leg 5 days before the first consultation.

Wound: The wound appeared to be a deep second degree burn.

Treatment before Cerdak: The patient had been treated at a rural clinic with Gentian violet.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

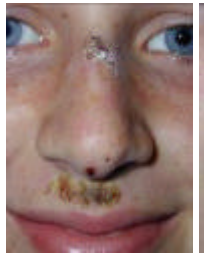
Other treatment: Paracetamol syrup 60mg/5ml, dosage of 7,5ml every 8 hours for the first two and a half days of the Cerdak™ treatment.

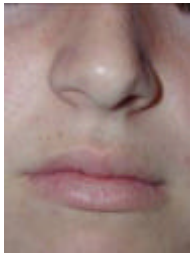
Result: The wound healed quickly with rapid re-epithelialization and early repigmentation.

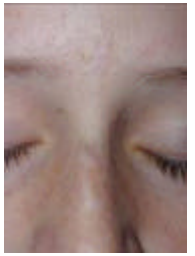
Comment: The patient was reviewed on day 60 and showed normal skin with mild hyper-pigmentation only. No scar tissue is seen on close inspection of the wound surface.

Case Study 43


Day 0


Day 7


2,5 Years Lip


2,5 Years Nose

Patient Profile: The patient is a 15 year old female who fell off her horse injuring her nose and chin.

Wound: Deep, soiled abrasions of nose and upper lip with loss of small areas of full-thickness skin.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5cc i.m.i; Amoxycillin 250mg 3 x per day for 5 days; Diclophenac Sodium 25 mg 3 x per day for 5 days.

Result: The abrasions healed very well over a period of 20 days. Long term follow-up showed an excellent cosmetic result with minimal scarring on the bridge of the nose.

Comment: Despite the soiled nature of the wounds, the long-term healing produced good quality skin with minimal scarring and a very good cosmetic result in a cosmetically sensitive part of the face.

Case Study 44

?

Day 0 Day 4 Day

Patient Profile: The patient is a 12 year old male who presented with a small ulcer on his right forearm, which he reported as a venomous (?) bite.

Wound: The ulcer had swollen, indurated edges and some central tissue loss. It had the typical appearance of a venomous bite.

Treatment before Cerdak: Antiseptic (name unknown) for 36 hours before presentation.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: Prednisone 5mg twice per day after food for 5 days and Paracetamol 500mg, two tablets twice to 3 times per day for 3 days.

Result: By day 4 most of the inflammatory swelling had subsided and the area of tissue loss had decreased substantially with clear signs of healing around the edges. The patient did not return for follow up photographs on healing of the wound, but confirmed healing by day 23 telephonically.

Comment: Clinical experience of the investigator with previous comparable venomous injuries where other dressings were utilised, showed a great reduction in inflammation early in the treatment. The non-Cerdak cases had received the same oral treatment.
Compared to previous similar venomous injuries where other dressings were used, together with the same oral treatment, the investigator recognised, through clinical experience, a great reduction in inflammation early in the treatment of this case.

Case Study 45

Day 0 Day 4 Day 16

Patient Profile: Patient is a 10 year old female with a nail fold infection.

Wound: Infection of the left big toe's lateral nail fold without any visible pus.

Treatment before Cerdak: Soaking in warm water with weak solution of Epsom salts for 5 days, covered with a bandage and antiseptic ointment. Patient had taken a course of Amoxicillin 250 mg three times per day for 5 days.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: Amoxicillin was continued for another five days at the same dosage.

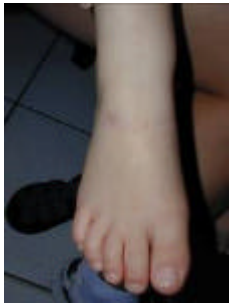
Result: The infection started to clear as soon as the Cerdak™ was applied. The patient returned to school by day 5. The infection had cleared about 90% by day 18 after which she was not able to return for a final picture on the day it had healed. It was reported telephonically to have healed completely by day 24.

Comment: Nail fold infections are notoriously difficult to heal without surgical intervention. Whereas the initial treatment produced little signs of healing, the lesion healed rapidly after the application of Cerdak™ and produced comfortable treatment with a good result.

Case Study 46


Day 0


Day 2


Day 71

Patient Profile: The patient is a four year old male who presented with a septic, granulomatous lesion on the dorsum of his right foot.

Wound: A septic, granulomatous lesion of 1cm by 2,5cm on the dorsum of the right foot. The origin of the lesion appeared to be traumatic.

Treatment before Cerdak: The patient's mother had been treating the wound with an antiseptic ointment for two weeks prior to presentation.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: None.

Result: After 48 hours the lesion showed substantial signs of healing. It was healed by day 10. The patient returned by day 60 with mild, flat scarring of the previously affected area. This is expected to improve substantially over the next year. After two years only a faint scar is visible on the dorsum of the foot.

Comment: Despite the extended period of inflammation preceding the start of the treatment, the healing induced by the Cerdak™ devices was uneventful with a good result and stable, uncomplicated healing in a young patient.

Case Study 47


Day 0


Day 3


Day 92

Patient Profile: The patient is a two year old male with an infective ulcer on the dorsum of the left fifth toe.

Wound: The origin of the lesion was a minor injury that subsequently became infected. The ulcer was very small, only about 4 mm in size with a large area of cellulites around the central broken skin.

Treatment before Cerdak: The lesion had been treated with topical antibiotic ointment for five days. The patient had developed cellulitis twelve hours before the consultation.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: Amoxycillin 125mg 3 x per day and Mefanamic acid suspension 125 mg 4 x per day.

Result: The lesion improved dramatically within 2 days and was healed after six days.

Comment: The patient returned for a follow up picture after 60 days. It showed complete healing with almost no scar tissue.

Case Study 48


Day 0


Day 9


Day 150


1 Year follow up


1 Year follow up

Patient Profile: A 2 year-old male who had accidentally amputated the tip of his finger in a door.

Wound: Traumatically amputated finger tip, which included most of the pulp, the whole nail and nail fold.

Treatment before Cerdak: Primary surgical grafting of the amputated tip.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient's mother at home.

Other treatment: Amoxicillin 125mg 3 x per day, Paracetamol and Mefanamic acid for pain.

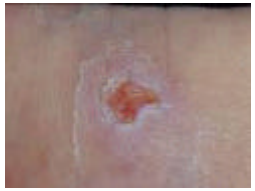
Result: The parents brought the amputated tip with to the surgery. The author reattached the tip as a free graft within the hour of injury. After 24 hours the graft looked reasonable, but by the 3rd day started turning black. It was then clear that the graft would not survive. The ceramic dressing kept the injured area perfectly clean and free of infection. Sutures were removed on day 10, but no attempt made to remove the graft. This was decided because it remained clean, uninflamed and with no signs of infection or sepsis. A clinical decision was taken to let the graft separate naturally. This process took the best part of 36 days. When the eschar eventually separated and fell off, it was clear that the fingertip had regenerated beneath the graft. Healing of the finger took 55 days.

The medium term result at day 141 showed a normal, functional finger and nail complex.

Comment: The remodeling of the fingertip took place in spite of the presence of a necrotic graft. Once more, the nail complex returned to a normal, functional one. The nail fold, not damaged by the injury, remained clearly defined after healing. Naturally, the young age of the patient favoured better healing of the fingertip in this case.

Case Study 49


Day 0


Day 0 Detail


Day 90

Patient Profile: The patient is a 42 year old female sales representative who had accidentally injured herself three weeks before.

Wound: A 12mm x 9mm granulating, traumatic ulcer with superficial necrotic tissue on about 50% of the surface of the ulcer.

Treatment before Cerdak: Povidone iodine ointment for a week and then Bactroban ointment daily.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as a dressing by the patient at home.

Other treatment: None

Result: The wound healed completely by 16 days. Follow up picture at 5 months shows stable healing with a comfortable foot and ankle.

Comment: Patient was able to continue with her normal work of driving all day to sell product.

Case Study 50


Day 0


Day 0 Detail


Day 22


Day 92

Patient Profile: The patient is a 23 year old domestic worker who had shaved some skin off the right lower leg on a metal object.

Wound: A full thickness loss of skin due to the laceration about 8cm x 3 cm with loss of the skin. It was not possible to suture the injury without causing a great deal of tension on the wound.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as a dressing by the patient at home.

Other treatment: Paracetamol tablets 500mg, 2 tablets 3x per day for 4 days.

Result: The laceration healed within 30 days and a follow up examination at 3 months showed good, stable healing with minimal scar tissue formation. The healed area was completely comfortable.

Comment: The patient was able to treat the wound by herself at home and was able to continue with her normal duties at work.

Case Study 51


Day 0


Day 84

Patient Profile: The patient is a 28 year old farm worker who had cut the palm of his hand whilst cutting sugar cane.

Wound: The wound was sutured primarily using 4/0 nylon sutures. Cerdak was applied to test the effect of the ceramic devices on primary surgical wounds.

Treatment before Cerdak: Suturing of the wound.

Cerdak™ WTD: A Cerdak wound treatment device was applied to the wound as a dressing and changed once after 24 hours by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5 cc i.m.i.

Result: On opening the wound on day 10 it was clear that the suture line showed very favourable changes. Very little of the suture line swelling normally seen after primary suturing was visible. The inflammation on the healing suture line and the entry points of the sutures had clearly been diminished.

Comment: This case study confirmed the possibility that Cerdak wound treatment devices could offer a substantial benefit over the normal post-operative dressings used in minor surgery and repair of lacerations.

Case Study 52


Day 0


Day 14


Day 49

Patient Profile: The patient is a 64 year old retired policeman who had non-healing skin wounds after orthopaedic repair of a fractured ankle. The fracture had been treated with screws and plate internal fixation. He was referred by the orthopaedic surgeon for treatment.

Wound: The wounds were already 3 months old and were linear and oval shaped in the lines of suture and drainage. Much of the tissue around the edges of the wounds looked marginally vital.

Treatment before Cerdak: Various state of the art advanced wound care products had been used. The patient had spent 4 weeks in hospital in an effort to get the wounds to heal. He was then discharged with povidone iodine dressings to be applied at home. He also received different antibiotic treatments whilst in hospital.

Cerdak™ WTD: A Cerdak wound treatment device was applied to the wound as a dressing and changed once every 24 hours by the patient at home.

Other treatment: No other medicinal treatment given and the patient was asked to continue to use his compressive, elastic support stocking over the Cerdak devices.

Result: The wounds healed, first with marginally vital tissue at the edges of the wound breaking down, whilst granulating simultaneously. The wound healed uneventfully with home treatment after 7 weeks.

Comment: Despite the chronic nature of the wounds with in-situ metal screws and plates, the wounds healed uneventfully at home, this at a fraction of the initial cost of the wound treatments. A verbal report at approximately six months post treatment indicated that the healing was stable and comfortable.

Case Study 53


Day 0


Day 4


Day 31

Patient Profile: The patient is a 50 year old farm worker who was attacked and bitten by a neighbour's dog.

Wound: A 2 cm tear in the scrotum near the central skin joint line at the scrotal septum.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5cc, Oxytetracycline 250mg 4 x per day and Aspirin 300mg 2 tablets 3 x per day.

Result: The scrotal skin healed with no further complications after 24 days.

Comment: Animal or other bites in areas where there is a lot of loose skin and relatively open tissue planes can easily lead to spreading infection. Hence the approach not to suture a wound such as this. In spite of slightly longer healing time than uncomplicated suturing of the wound, the clear advantage is that of lowered infection risk.

Case Study 54


Day 0


Day 10


Day 21

Patient Profile: Patient is a 8 year old male who injured his finger tip in a sliding door.

Wound: Deep laceration into the pulp and nail fold near the nail matrix of the right middle finger, on the radial aspect.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient's mother at home for the first two days and then changed every 3rd day.

Other treatment: Paracetamol syrup 10m = 240mg 3 x per day.

Result: The finger healed uneventfully in 21 days without any sutures and shows an excellent result with normal sensation of the tip.

Comment: The injury was not sutured due to the torn nature of the injured skin making it difficult to inject the local anaesthesia and insert the sutures without tearing the skin. The atraumatic nature of the treatment confirms the very useful application of this treatment method in small children where a general anaesthetic might be required to repair this laceration surgically.

Case Study 55


Day 0


Day 150

Patient Profile: The patient is a 16 year-old male who sustained a minor injury to his sacral area in rugby.

Wound: The injury became secondarily infected and broke down into a shallow ulcer. Despite the home treatment, the ulcer was already ten days old and not healing.

Treatment before Cerdak: Betadine and Bactroban dressings at home and Cotrimoxazole tablets 2 tabs 2 x per day.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient's mother at home.

Other treatment: Amoxycillin 250mg 3 x per day.

Result: The ulcer healed uneventfully within 10 days. Only a small area of scarring is visible at 6 months when the patient had sustained a second minor injury to the same area.

Comment: A non-healing wound has healed with Cerdak and minimal medical treatment after traditional treatments had failed.

Case Study 56


Day 0


Day 174

Patient Profile: The patient is a 68 year old pensioner who has been suffering with leg ulcers for more than 18 months.

Wound: He had several punched-out lower leg ulcers with the largest described here. The ulcer had yellow necrotic tissue in the base and was surrounded by a large edge of inflamed and indurated skin.

Treatment before Cerdak: Many and varied forms of treatment had been attempted by several different doctors and nurses. Biopsies from the edge of the ulcers before the start of Cerdak treatment, revealed only chronically inflamed skin. Pus swabs revealed a number of different pathogens.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 12 to 24 hours by the patient himself at home. The application of the devices induced quite severe pain. This reaction has been observed almost exclusively in the treatment of certain types of non-healing wounds.

Other treatment: Antibiotics according to culture and sensitivity – which varied from time to time; painkillers and non-steroidal anti-inflammatory medication as well as low-dose aspirin every day.

Result: After several months the wound had not healed and the patient was referred to a plastic and reconstructive surgeon for treatment. After a further year the wound had still not healed.

Comment: In this case the tissue of his legs appeared to be disturbed and the normal wound-healing cascade had clearly become non-functional. The advent of pain on application of the Cerdak is an indicator of a disturbed biochemical wound healing environment.

Case Study 57


Day 0


Day 3


Day 31

Patient Profile: The patient is a 55 year old female school teacher who reported a possible venomous bite on her chin. She thought it was a spider.

Wound: Single 4mm superficial ulcer with inflamed tissue surrounding the ulcer and small satellite areas of blistering and imminent tissue breakdown. Typical appearance of a venomous bite.

Treatment before Cerdak: Bactroban® ointment.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Prednisone 5mg 2x per day for 4 days.

Result: Inflammation decreased rapidly in two days and the lesions healed within seven days. Follow up at one month showed good healing with no tissue loss or scarring.

Comment: The usual problems associated with venomous bites like tissue loss and scarring appear to be obviated to a large degree by the action of the ceramic on the wound fluid.

Case Study 58


Day 0


Day 3

?
Day

Patient Profile: Patient is a 19 year-old male with infectious ulcers of his left lower leg.

Wound: Superficially eroded ulcers of the left leg with suspected staphylococcal infection.

Treatment before Cerdak: Patient had been treated at a local clinic with oral medication and dressings, but the detail is unknown.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Cotrimoxazole 2 tablets 2x per day for 5 days and Aspirin 300mg 2 tablets 3 x per day.

Result: After three days the patient returned for a follow up consultation. He showed excellent signs of healing, but then did not return again for the scheduled follow up visit after healing. From the appearance at day 3 it was presumed that the ulcerations had healed completely.

Comment: Ulcers presumed healed. In rural areas transport to medical facilities is often lacking and patients tend not to return for follow up visits if a satisfactory result is seen.

Case Study 59

Day 0

Day 3

?

Day

Patient Profile: Patient is a 23 year old male who burnt his left calf with hot water.

Wound: 7cm x 4 cm deep second degree burn, 5 days old. Yellow, necrotic crust covering the burnt area.

Treatment before Cerdak: The patient received some dressings at a local clinic, but the details are unknown.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Cotrimoxazole 2 tablets 2 x per day for 10 days and Paracetamol 500mg tablets 2 tablets 2x per day for 5 to 10 days as required.

Result: The patient returned on day 3 as requested, the crust had gone and the wound showed healthy granulation tissue. The treatment was continued, but the patient did not return for further follow up.

Comment: Result unknown.

Case Study 60

Day 0

?

Day

Patient Profile: Patient is a 25 year-old male farm worker who had cut his hand accidentally whilst cutting cane.

Wound: A triangular section of skin on the volar aspect of his left hand, at the base of the index finger was lost. The injured area appeared septic on the surface.

Treatment before Cerdak: Mercurochrome.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5cc i.m.i., Cotrimoxazole tablets 2 tabs 2x per day, Paracetamol 500mg 2 tablets 3 x per day.

Result: The patient did not return for follow up consultation.

Comment: Result unknown.

Case Study 61


Day 0


Day 2


Day 21

Patient Profile: The patient is 50 year-old male with known psoriasis, which suddenly flared up.

Wound: Typical psoriatic plaques with a great deal of inflammation on the dorsal aspects near his elbows.

Treatment before Cerdak: Various anti-psoriatic treatments over many years, which would afford him some relief at times and none at other times.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: None at this time. The patient stopped the coal tar preparation he was using whilst applying the Cerdak.

Result: Mild to moderate reduction in the degree of inflammation whilst the Cerdak was being applied.

Comment: The patient was advised that this was an inappropriate use of Cerdak and was unlikely to heal the lesions, but would likely just relieve acute inflammation. At this time the action of the ceramic was becoming clearer and it was predictable that it would have no effect on the psoriasis itself.
Thus: Inappropriate application of the ceramic on this condition.

Case Study 62


Day 0


Day 7


Day 19

Patient Profile: The patient is a 30 year old **diabetic** farm labourer who had lost a piece of skin from the volar aspect of the 4th finger of his left hand.

Wound: 12mm x 7mm area of lost skin with secondary infection**.**

Treatment before Cerdak: Daily povidone iodine ointment dressings.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Cotrimoxazole 2 tablets 2x per day for 5 days.

Result: By day 19 the exposed area had diminished by more than 80% of the original surface area.

Comment: The skin had recovered by formation of new skin by day 19. The patient did not return for a follow up picture. From the progression of healing however, it looked a certainty that the wound would heal normally in the fashion of glaborous skin. Conclusion: Presumed healed

Case Study 63


Day 0


Day 8

Patient Profile: The patient is a 48 year old female receptionist who developed signs of hypertrophic scarring after minor skin excision surgery.

Wound: Scar on abdomen with early hypertrophy.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: None

Result: Only moderate reduction in inflammation seen.

Comment: It had been noticed previously that Cerdak worked well to reduce the inflammation in fresh post-operative wounds. Cerdak was applied to the wound according to the normal protocol, but after a week appeared to make little or no difference. With no broken skin or production of inflammatory exudate, no change would be expected.
Thus, this is possibly an inappropriate application.

Case Study 64


Day 0


Day 6


Day 13

Patient Profile: Patient is a 32 year-old farm worker bitten by a dog on the palm of his right hand.

Wound: 7cm laceration of the thenar eminence with early sepsis.

Treatment before Cerdak: Disinfection and povidone iodine dressing.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Cotrimoxazole 2 tablets 2x per day x 5 days and Metronidazole tablets 200mg 2x per day x 5 days, Aspirin 300mg 2 tablets 3 x per day x 6 days after food, Anti-tetanus toxoid 0,5cc.

Result: Steady healing with little inflammation and very little pain over 13 days. No deep infection seen. Patient did not return for final follow up visit.

Comment: Dog bites are generally problematic injuries and often turn very septic. Uncomplicated healing with minimal scarring represents an elegant solution to this common problem.

Case Study 65


Day 0


Day 0 detail


Day 25


Two year follow-up

Patient Profile: Patient is a 20 month old female who fell and cut her forehead.

Wound: 1.5cm full thickness laceration of left frontal skin.

Treatment before Cerdak: None

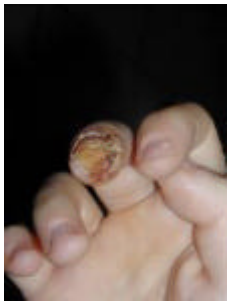
Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once after 24 hours and then twice at three day intervals by the patient's mother at home.

Other treatment: Paracetamol syrup 120mg/5ml, 5ml twice per day for 24 hours.

Result: The laceration healed uneventfully with a very good long term result after two years.

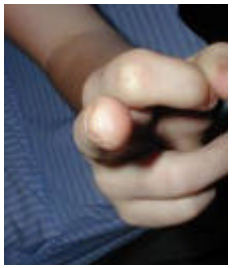
Comment: In small children where injecting local anesthetic is a traumatic procedure, Cerdak offers an elegant solution for small lacerations, which is completely atraumatic. Long term results are very good.

Case Study 66


Day 0


Day 8


Day 82


Day 82

Patient Profile: Patient is a 16 year-old female who sustained a traumatic amputation of the tip of her right middle finger as a result of a human bite. Injury was 10 days old at first presentation.

Wound: A slowly granulating traumatic amputation just distal to the nail fold is seen with poor quality granulation tissue only in patchy areas of the defect.

Treatment before Cerdak: Daily povidone-iodine dressings and an initial short course of antibiotic orally.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home. After 5 days she only changed the Cerdak every third day.

Other treatment: None.

Result: Good restoration of the lost pulp and nail bed is seen at day 82. The patient left town and further follow up was not possible.

Comment: Despite the nature and extent of the injury, the treatment with Cerdak produced restoration of the finger tip with length preservation. The final impression was that of a relatively normal looking finger tip with a normal nail bed and nail fold.

Case Study 67

Day 0 Day 6

Patient Profile: The patient is a 37 year old male who presented with a septic post-operative (ligament tear repair) of his right foot. The operation had taken place 11 days previously.

Wound: Septic 10 cm post-operative wound lateral aspect right foot. Not clinically clear if sepsis was limited to the suture line or was situated deeper than that.

Treatment before Cerdak: Oral anti-biotics and NSAID orally (details unknown).

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once per day by the patient at home.

Other treatment: Ciprofloxacin 500mg 2 x per day for 8 days and Diclophenac Potassium 50mg 3 x per day for 5 days.

Result: The wound looked worse after 6 days, not better. The patient was referred back to the surgeon for treatment. The foot was reoperated on, desloughed and closed primarily with high doses of i.v. anti-biotics. It then healed uneventfully in three weeks.

Comment: No matter how good any surface dressing is, surgical principles of wound care need to be adhered to at all times.

Case Study 68

Day 0

Day 3

?

Day

Patient Profile: Patient is a 29 year-old female gardener who accidentally cut her right lower leg about 6 days before.

Wound: A 6 cm septic, transverse laceration on the anterior lower leg just above the ankle.

Treatment before Cerdak: Gentian Violet dressings.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5 cc i.m.i., Cotrimoxazole 2 tablets 2x per day for 5 days.

Result: The wound was much cleaner, had less swelling by day 3 and healed in 19 days by a verbal report of the employer. Unfortunately the patient did not return for a final post-healing follow up.

Comment: Despite the nature and position of the wound, the patient was able to continue with her work as usual. The user-friendly nature of Cerdak and the overall comfort of application enables patients to resume work much earlier than with many other forms of wound treatment.

Case Study 69

Day 0

Day 60

Patient Profile: The patient is a 62 year old lecturer who had undergone surgery for a perforated peptic ulcer.

Wound: Septic puncture wound of a closed intra-abdominal drain.

Treatment before Cerdak: Cellulose-based occlusive dressing followed by mercurochrome which the patient applied on his own initiative.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound and changed once every 24 hours by the patient at home.

Other treatment: None.

Result: The wound healed uneventfully without any further complications.

Comment: Septic post-surgical wounds may sometimes present with unusually resistant bacteria and present special challenges in treatment. The action of the ceramic makes this a practical home-based treatment for this type of problem.

Case Study 70


Day 0


Day 20


Day 32

?

Day

Patient Profile: A 20 year-old male who sustained an injury to his foot on a motorcycle. The wound had been debrided in theatre 3 weeks before. It was not healing.

Wound: Large, deep abrasion with loss of sub-cutaneous tissue on the medial side of the left foot.

Treatment before Cerdak: Surgery and various occlusive and non-occlusive dressings.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 12 to 24 hours (depending on the amount of exudate) by the patient at home.

Other treatment: Ciprofloxacin 500mg 2 x per day for 10 days.

Result: Steady healing with sloughing of marginal tissue took place over several weeks. Patient left for university a few days after the last picture. Patient reported verbally that the wound had completely healed by 9 weeks.

Comment: Cerdak succeeded to help heal the wound where various other good treatments had failed.

Case Study 71


Day 0


Day 3


Day 10


Day 180

Patient Profile: The patient is a 28 year-old handyman who burnt his hand in an electrical flash burn.

Wound: Second degree burn of most of the dorsum of his right hand.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound and dressings were changed once every 24 hours by the patient at home.

Other treatment: Combination of Paracetamol, Codeine and Ibuprofen (Myprodol) for pain. Amoxycillin 250 mg 3 x per day for 5 days.

Result: The burn healed uneventfully over a period of 23 days. Follow up at 68 days and at 180 days showed the return of normal skin with virtually no scarring.

Comment: The quality of healing attained with the Cerdak appears to be exceptionally good with almost no scar tissue visible at 6 months.

Case Study 72


Day 0


Day 0


Day 0

Patient Profile: Patient is a 4 year-old child with a congenital disease of her skin which produces continuous inflammation of her skin.

Wound: The skin is affected in large areas of the body producing recurrent secondary infections, severe pruritis and pain.

Treatment before Cerdak: A multitude of different treatmens had been tried with little or no effect. The prognosis for this condition is poor.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours at home.

Other treatment: The patient stayed on her usual doses of cortisone and anti-histamine.

Result: Cerdak was tried to see if it would relieve the inflammation. The parents of the child were informed that it was doubtful that there would be any improvement. The inflammation appeared to decrease for a few weeks, but then effect was lost.

Comment: This is a genetically based inflammatory disease. The skin does not have the potential for mending by reversal of the defect. Cerdak is simply too cumbersome and impractical to apply to any condition like this. This is therefore an inappropriate application.

Case Study 73


Day 0


Day 38

Patient Profile: The patient is a 24 year old farm worker bitten by a dog on the right thigh.

Wound: Deep puncture wound with a lateral tear of recent origin and bleeding profusely.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings, changed once every 24 hours by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5 cc i.m.i., Cotrimoxazole 2 tablets 2x per day for 5 days, Aspirin 2 tablets 2x per day for 5 days.

Result: The wound healed uneventfully in 23 days with no complications and a good cosmetic result.

Comment: Patient was able to resume work after 4 days.

Case Study 74


Day 0


Day 35


Day 140

?

Day

Patient Profile: The patient is a 65 year old female who injured her leg in a train accident when she was 17 years old. A successful skin transplant was done at that time. This area on her leg broke down due to an unexplained pseudomonas infection at age 65.

Wound: Large, deep ulcer of approximately 70mm x 100mm with yellow-green necrotic tissue on the surface and some granulation tissue on the surface.

Treatment before Cerdak: A number of other treatments were attempted and the patient was offered an amputation of the leg.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 12 to 24 hours by the patient at home. She experienced quite a bit of pain in the leg before and after application of the Cerdak.

Other treatment: Antibiotics from time to time according to cultures taken.

Result: She was treated with Cerdak for more than 18 months. The ulcers got smaller and remained comfortable, but the wound has never fully healed. The initial injury had caused an area of tight scarring at the ankle which eventually appeared to strangle the circulation to the area, leading to the break down of the skin.

Comment: The patient was offered amputation when the ulcers proved to be non-healing initially, but she declined in favour of continuing to use the Cerdak. Not healed, but managed to stay comfortable using the Cerdak and stave off the amputation.

Case Study 75


Day 0


Day 19

Patient Profile: Patient is a 76 year-old male presenting with a deep second degree burn on his thigh after spilling hot liquid on himself.

Wound: Approximately 1,5%-size deep second degree burn.

Treatment before Cerdak: Antiseptic dressing and Aspirin tablets.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Anti-tetanus toxoid 0,5 cc i.m.i., Cotrimoxazole 2 tablets 2x per day for 5 days, Paracetamol 500mg 2 tablets 2x per day to maximum 3 x per day for 5 days.

Result: Uneventful healing with a stable result at the end of 19 days. Some repigmentation also starting to appear at the end of two months albeit rather slow.

Comment: Patient was comfortable with the treatment and reported a reduction in pain after applying the fresh Cerdak every day.

Case Study 76

Day 0 Day 35 Day 56

Patient Profile: Patient is a 64 year old female who had sustained a small injury on her right lower leg. The appearance was that of a venomous bite.

Wound: A darkened patch of injured skin with an indurated and inflamed edge of about 7,5cm. In time, the marginal tissue broke down and left a shallow ulcer of about 2cm diameter. This is consistent with a venomous bite, quite possibly a spider.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed once every 24 hours by the patient at home.

Other treatment: Prednisone 5mg 2 tablets 2x per day for 5 days, then 1 tablet 2x per day for 5 days.

Comment: Healing was slow but orderly and proceeded without any tissue loss or the need for surgical intervention. The patient was comfortable on the treatment and able to continue with her normal daily tasks.

Case Study 77

Day 0 Day 12 Day 26

Patient Profile: The patient is a 61 year old female presenting with a suspected venomous bite injury to her lower leg.

Wound: A 2.3cm blister (bulla) formed on the lower leg without any history of injury.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings and changed every 48 hours by the patient at home.

Other treatment: Prednisone 5mg 2 tablets 2x per day for 5 days, then 1 tablet 2x per day for 5 days.

Result: Uneventful healing with no tissue loss. Patient remained comfortable throughout.

Comment: The Cerdak appears to limit tissue loss and provide good comfort during healing in venomous bite injuries.

Case Study 78

Day 0

Day 190

Patient Profile: The patient is a 58 year old female who had a venomous bite 6 weeks before. Presumed to have been a spider bite, it had left a large defect on her leg just below the knee.

Wound: A deep ulcer with considerable tissue defect and low grade infection.

Treatment before Cerdak: Povidone iodine ointment dressings.

Cerdak™ WTD: Cerdak devices applied to the wound as a dressing by the patient at home.

Other treatment: None

Result: The defect healed with some scarring, but the healing was completely uneventful. Healing took approximately 12 weeks.

Comment: It is an impression that the later any wound is treated with the Cerdak, the bigger the risk of scarring. The fresher the wound, the better for restoration of new tissue when applying the Cerdak.

Case Study 79

Day 0

Day 70

Patient Profile: The patient is a 72 year-old male with lower leg ulcers for more than 30 years. The ulcers had followed some skin infection.

Wound: Large and deep ulcers of his left foot and leg.

Treatment before Cerdak: Anything and everything from surgical procedures to all manner and means of advanced and traditional wound treatments. No improvement.

Cerdak™ WTD: Cerdak devices were applied to the wound as a dressing by the patient's wife at home. These were changed daily.

Other treatment: Antibiotic treatment according to cultures taken and analgesics of various types, varied from time to time.

Result: The wounds did not improve, but looked a little cleaner after several months of treatment. Interestingly enough the patient experienced pain when the Cerdak was applied. This has been noted in a few other cases of very old ulcers which refused to heal.

Comment: Non-healing chronic ulcer. Taking the physical action of Cerdak into account it would imply that the wound healing cascade had become corrupted and could no longer be optimised.

Case Study 80


Day 0


Day 3

?
Day

Patient Profile: A 25 year-old male carpenter. Finger injured in an electrical wood plane.

Wound: Small partial amputation of the pulp and nail of the left 5th finger.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices were placed on the injury by the patient's wife at home.

Other treatment: Anti-tetanus toxoid 0,5cc i.m.i.; Cotrimoxazole tablets 2 tabs 2 x per day; Aspirin 2 tablets 3 x per day.

Result: Some early healing of the nail bed and tip was visible at follow up on day 3.

Comment: Patient did not return for follow up. Extent of result unknown, but presumed healed.

Case Study 81


Day 0


Day 0 Detail


Day 12

Patient Profile: Patient is a 61 year-old female with non-healing ulcers of her right foot for more than 8 months. Patient had a great deal of pain. Not diabetic.

Wound: Large cratered ulcers on the medial part of left ankle.

Treatment before Cerdak: Several other treatments failed to heal the wounds, details not known.

Cerdak™ WTD: Cerdak devices placed in sterile sachets and applied to the wound as a dressing by the patient at home.

Other treatment: Paracetamol 500 mg 2 tablets 3 x per day and Ciprofloxacin 500 mg 1 tablet 2 x per day.

Result: Patient experienced significant pain on application of the Cerdak. Patient then decided to stop treatment, but final result is uncertain.

Comment: In spite of good healing the pain of application prevented the patient from completing the treatment.

Case Study 82


Day 0


Day 7


Day 21

Patient Profile: Patient is a 25 year old farm worker who had accidentally injured her ankle over the Achilles tendon.

Wound: Large granulating ulcer at the back of left leg over the Achilles tendon.

Treatment before Cerdak: Povidone iodine dressings for 10 days. Healing was very slow.

Cerdak™ WTD: Cerdak devices were applied to the wound as a dressing by the patient at home and changed every second day.

Other treatment: Cotrimoxazole 2 tablets 2x per day; Aspirin 300mg 2 tablets 3 x per day for 4 days as required.

Result: Uneventful healing of the wound.

Comment: Patient was able to return to work straight away and no time was lost at work.

Case Study 83


Day 0


Day 0 Detail

?
Day

Patient Profile: The patient is a 59 year-old male who had developed a septic ulcer on his lower leg after a minor injury. He had heard about the product from a friend and traveled over 600 km to get the dressings.

Wound: Large ulcer of about 110mm x 87 mm left lower leg on the ankle. Yellow necrotic tissue and pus on the surface of the ulcer.

Treatment before Cerdak: A large variety of anti-septic, occlusive dressings with antibiotics by mouth. Numerous home remedies had been tried over 7 and a half months with little or no improvement.

Cerdak™ WTD: Cerdak ceramic wound treatment devices were applied to the wound as a dressing by the patient at home and changed daily.

Other treatment: None

Result: The patient did not return for follow up, but information was received by telephone that his leg had healed after 6 weeks.

Comment: Many ulcers treated and not healing, may benefit from the use of Cerdak even after a host of other treatments have failed.

Case Study 84

?

Day 0 Day 68 Day 68 Detail

Patient Profile: The patient is a 54 year old retired plumber who had injured his arm against a sharp metal edge.

Wound: 7cm Laceration of the forearm with superficial sepsis and retracted edges, leaving a much bigger defect than the original injury.

Treatment before Cerdak: Povidone iodine and another anti-septic ointment.

Cerdak™ WTD: Cerdak devices were applied to the wound as a dressing by the patient's wife at home.

Other treatment: Cotrimoxazole 2 tablets 2 x per day for 5 days.

Result: The wound healed within 3 weeks and remained stable after that. Photographs of the original injury were lost.

Comment: Wounds treated with other methods for a short period does not seem to alter the ability of the ceramic to enable the wound to heal normally and with good quality tissue.

Case Study 85

Day 0 Day 7 Day 65

Patient Profile: Patient is a 53 year old nursing sister with a suspected venomous bite on the dorsum of her left foot.

Wound: Small, 6mm pustule visible on the dorsum of the foot with a great deal of swelling and redness of the foot. The pustule broke down to a larger 8mm ulcer with yellow necrotic tissue and some loss of epidermis around the ulcer.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak ceramic wound treatment devices were applied to the wound as a dressing by the patient at home.

Other treatment: Prednisone 5 mg, 2 tablets 2x per day for 4 days. Amoxycillin 250 mg 3 x per day for 5 days.

Result: Uneventful healing with virtually no scarring of the foot.

Comment: The behaviour of the injury was that of a venomous bite. Early application of the Cerdak devices shows consistent reduction of tissue loss in this series.

Case Study 86


Day 0


Day 0


Day 0


Day 23


Day 23


Day 23

Patient Profile: The patient is a 48 year old male who sustained a deep laceration of his right middle finger.

Wound: Deep laceration through the finger from radial to ulnar side, nearly amputating the tip distal to the distal inter-phalangeal joint. The tip was sutured back into place, but patient informed that there was a good chance that the tip might not survive. Only a small bridge of tissue survived intact on the volar aspect of the finger.

Treatment before Cerdak: Near-severed tip was sutured back into place.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as a dressing by the patient at home and changed daily.

Other treatment: Anti-tetanus toxoid 0,5 cc imi and Amoxycillin 250 mg 1 cap 3 x per day.

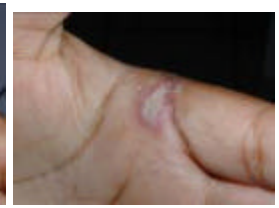
Result: The finger healed uneventfully, the nail was lost, but the new nail grew back over the following months. The finger is functional and has little visible scarring.

Comment: Distal finger and toe injuries are injuries seen in their own class. They have to date not had any specific forms of dressing treatments which could consistently positively influence the outcome of the surgical treatment, or serve as the complete treatment itself.

Case Study 87


Day 0


Day 1


Day 15

Patient Profile: Patient is a 23 year old female police woman who shot herself in the left hand when her sidearm accidentally discharged.

Wound: Superficial, 22mm x 10mm wide gunshot wound through the skin between the thumb and forefinger. Appearance of mild over-hydration of the edges of the wound.

Treatment before Cerdak: Antiseptic cream (details unknown) for two days.

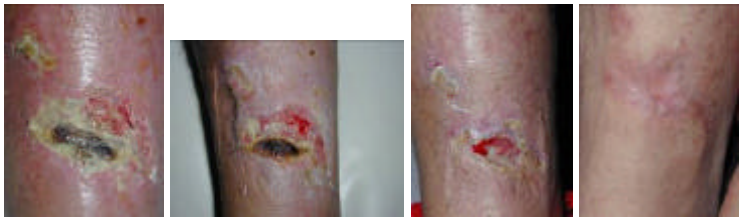
Cerdak™ WTD: Cerdak devices were applied to the wound as a dressing by the patient at home.

Other treatment: Aspirin and paracetamol combination 2 tablets 3 x per day for two days.

Result: On day 1 the wound was clean and showed excellent granulation of the base of the wound. Wound was healed by day 15. Unfortunately no further follow up pictures are available.

Comment: Rapid response to treatment with the ceramic wound treatment devices.

Case Study 88



Day 0 Day 9 Day 43 8 Months

Patient Profile: Patient is a 52 year-old technician, who presented with a 3 month-old non-healing wound of his left shin sustained on rocks at the beach where he was fishing.

Wound: Necrotic, inflamed ulcer of the left anterior shin 7cm x 5cm with yellow and black necrotic tissue in the base of the ulcer.

Treatment before Cerdak: A wide variety of occlusive and non-occlusive dressings were employed to try and heal the wound.

Cerdak™ WTD: Cerdak devices were applied to the wound as a dressing by the patient's wife at home and changed daily before full saturation.

Other treatment: Cotrimoxazole 2 tablets 2 x per day, Aspirin 150mg 1x per day to help prevent any micro-vascular coagulation problems.

Result: The wound desloughed over a period of 7 days and then healed steadily and uneventfully over the next 49 days.

Comment: None of the conventional treatments employed improved the wound at all. It looked at first as if he might need to have surgery to debride the wound and skin grafting after adequate granulation of the wound bed. The wound healed without further interference and presented with stable healing and good quality skin with minimal scarring by day 241.

Case Study 89

Day 0 Day 0 Detail Day 2

?

Day

Patient Profile: The patient is 47 year old male who presents with an ulcer on his abdomen, reporting that it was due to a venomous bite.

Wound: 22mm ulcer of abdominal wall skin with yellow necrotic tissue on the base. Indurated area with inflamed tissue surrounding the primary ulcer. Diagnosed as a probable spider bite.

Treatment before Cerdak: Anti-septic ointment and oral antibiotics, details unknown to patient.

Cerdak™ WTD: Cerdak applied to the wound as a dressing by the patient's wife at home.

Other treatment: Prednisone 5 mg 2 tablets 2x per day, Paracetamol 500mg 2 tablets 3 x per day.

Result: On day 2 the wound was less indurated and the inflammation was clearly less.

Comment: Patient was from out of town and did not return for further pictures. He did report verbally that the wound had healed after 29 days with no defect in the skin and a small area that looked as if it would be a scar.

Case Study 90


Day 0


Day7


Day 62

Patient Profile: The patient is a 54 year old male who presents with a chemical burn (fertilizer) on his scrotum.

Wound: Approximately 8cm diameter 2nd degree chemical burn of his scrotum.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were placed on the wound as a dressing by the patient's wife at home.

Other treatment: Aspirin 300mg 2 tablets 3 x per day; Cotrimoxazole tablets 2 tablets 3 x per day.

Result: The wound healed uneventfully over a period of 19 days. Follow up at day 62 shows healed skin with no scarring.

Comment: Cerdak™ is a very useful and user-friendly treatment for home treatment of smaller burns, thermal and chemical..

Case Study 91


Day 0


Day 5


Day 12

Patient Profile: Patient is a 23 year old male presenting with an abscess and nail fold sepsis of the left 2nd toe.

Wound: Abscess and small ulcerated areas of the skin of the left 2nd toe, wound already 10 days old.

Treatment before Cerdak: Anti-septic ointment, covered with plaster. Detail of ointment not known.

Cerdak™ WTD: Cerdak ceramic wound treatment devices were placed on the toe as dressings by the patient at home and changed daily.

Other treatment: Aspirin 300mg 2 tablets 3 x per day; Cotrimoxazole tablets 2 tablets 3 x per day.

Result: The toe healed uneventfully over 12 days.

Comment: Sepsis in and around the nail fold is often difficult to clear. Cerdak makes it easy to clear up these lesions.

Case Study 92


Day 0


Day 12


Day 61


Day 61 Compared to non-injured toe

Patient Profile: Patient is a 15 year-old female who accidentally injured her toe by abrasion on tarmac whilst riding a motorcycle bare-footed.

Wound: A large part of the pulp of the left big toe, the nail bed and nail fold were destroyed.

Treatment before Cerdak: Povidone iodine ointment dressings daily.

Cerdak™ WTD: Cerdak devices were placed on the toe daily by the patient at home.

Other treatment: Paracetamol 2 tablets 2x per day for the first 4 days as required.

Result: The toe recovered with almost full restoration of the tip of the toe, the nail and the nail bed. The new nail was of normal shape and normally adherent to the nail bed.

Comment: A number of instances has shown the potential of this treatment to restore lost tissue in digit tip injuries.

Case Study 93


Day 0


Day 7


10 Months

Patient Profile: Patient is a 3 year old male who burnt his hand with hot water.

Wound: Small second degree burns of the palm of his right hand. Small areas of superficial slough visible.

Treatment before Cerdak: Anti-septic cream daily, which was very painful to change.

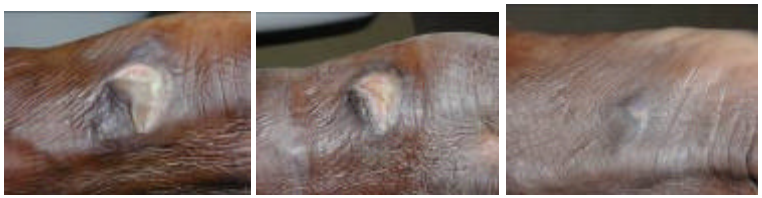
Cerdak™ WTD: Cerdak devices were applied to the wound as a daily dressing by the patient's mother. The non-stick surface of the devices ensured an easy dressing change.

Other treatment: Paracetamol syrup 120mg per 5ml, 5 ml 4 x per day for the first 4 days.

Result: The wound healed uneventfully in 16 days when the Cerdak was stopped. The patient's parents moved away temporarily. The long term follow up showed very good healing of the skin with no scarring at all at 10 months.

Comment: Restoration of skin with no scarring has been observed a number of times with the Cerdak ceramic treatment.

Case Study 94



Day 0 Day 9 9,5 Months

Patient Profile: Patient is a 51 year-old farm worker with a septic laceration on the dorsum of his right foot.

Wound: Crescent-shaped laceration on the dorsum of right foot already 5 days old at first presentation. Yellow necrotic tissue visible on surface of the wound.

Treatment before Cerdak: Traditional healer dressings were applied at home.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as a dressing by the patient at home and changed every day initially and every second day once the wound started to produce less fluid.

Other treatment: Cotrimoxazole tablets 2 tablets 3 x per day for 5 days.

Result: The wound healed uneventfully despite the retraction of the edges of the wound and showed stable healing with minimal scarring at 9 months.

Comment: The quality of healing with a small minimally scarred area after 9 months confirms the tissue restoration that the ceramic devices induce in a variety of wounds.

Case Study 95

Day 0 Day 90 10 Months

Patient Profile: Patient is a 14 year-old male who presents with a 7cm burn of 10 days' standing.

Wound: A 6cm x 1,8 cm linear, deep 2nd degree thermal burn of his left calf. The inferior part of the burn had begun to epithelialise.

Treatment before Cerdak: Daily dressings with Bactroban® ointment.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings by the patient's mother at home.

Other treatment: None

Result: The wound healed uneventfully, but with some scarring.

Comment: Interestingly enough the wound healed with definite scarring, whereas the burns treated with Cerdak from the outset in fresh wounds were less inclined to scar.

Case Study 96


Day 0 Tip grafted


Day 0 Tip grafted


Day 30 Graft necrotic


Day 36 Eschar separates spontaneously


Day 60


Day 60


Day 141


Day 141

Patient Profile: Patient is a 3 year-old male who presented with a traumatic amputation of the tip of his left middle finger, slammed in a door.

Wound: Traumatic amputation of the tip of the finger, the whole nail complex and nail bed included. The injury was fresh and the amputated tip was grafted back on in an attempt to restore the tip. It was covered with Cerdak wound treatment devices from the start to keep it clean.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as dressings by the patient's mother at home. They were changed daily for the first three days and then only once every third day.

Other treatment: Amoxycillin 125mg 3 x per day, Mefenamic acid 120mg 3 x per day for pain during the day and Stopayne 5ml at bedtime to control pain.

Result: Regeneration of the tip occurred with intact pulp, nail, nail bed and nail fold structures beneath the black, necrotic grafted tip.

Comment: The ceramic creates optimal conditions for restoration of a complex epidermal-dermal tissue interface and functions thus repeatedly. This appears to be a novel occurrence.

Case Study 97


Day 0


Day 29


7 Months

Patient Profile: Patient is a 23 year-old male who accidentally caught the fingers of his left hand in a belt sander.

Wound: Deep abrasions of the radial aspects of the middle and ring fingers with a more superfial one on the dorsum of the thumb.

Treatment before Cerdak: None

Cerdak™ WTD: Cerdak devices were applied to the wound as dressings by the patient's wife at home.

Other treatment: Anti-tetanus toxoid 0,5cc i.m.i., Cotrimoxazole 2 tablets 2 x per day, Paracetamol 500 mg 2 tablets 3 x per day and Aspirin 300mg 2 tablets 3 x per day.

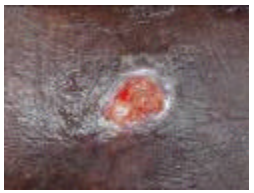
Result: Good healing over a relatively short period of time, with good quality skin and normally functional fingers.

Comment: The quality of healing is very good in this case.

Case Study 98


Day 0


Day 7


Day 39


Day 43

Patient Profile: Patient is a 60 year old farm worker with an ulcer of his right lower leg.

Wound: Shallow ulcer of the leg 15mm in diameter, origin of the ulcer was minor trauma.

Treatment before Cerdak: Povidone iodine dressings daily.

Cerdak™ WTD: Cerdak wound healing devices were applied to the wound as dressings by the patient's wife at home.

Other treatment: Cotrimoxazole 2 tablets 2 x per day, Paracetamol 500 mg 2 tablets 3 x per day.

Result: Slow healing with reasonable progression is seen after 39 days. Patient did not come for further follow up. Result unknown.

Comment: Some chronic lower leg ucer fall into the category of permanently non-healing ulcers. The Day 39 follow up is not indicative of quick healing with a good result.

Case Study 99

Day 0

?

Day

Patient Profile: Patient is a 35 year old female patient who presents with a large septic ulcer of her left lower leg.

Wound: Large shallow ulcer with some necrotic debris in the central part. The leg is swollen and has deeper infection in the form of cellulites around the ulcer.

Treatment before Cerdak: Dressings by a traditional healer. Details unkown.

Cerdak™ WTD: Cerdak wound treatment devices were applied to the wound as a dressing by the patient at home, to be changed daily.

Other treatment: Ultracillin 2.4 MU i.m.i. and Pencillin VK 250 mg 4 x per day for 10 days, Paracetamol 500 mg 2 tablets 3 x per day and Elevation of the leg for 10 days.

Result: Patient did not return for follow up.

Comment: Result unknown.

Case Study 100

Day 0

Day 120

Patient Profile: Patient is a 72 year old male diabetic who presents with a burn on the dorsum of his right foot.

Wound: A 34mm x 4 mm 2nd degree burn with erythematous areas surrounding the central burn.

Treatment before Cerdak: Povidone Iodine dressings daily. Patient is on Metformin 500mg 2x per day and Insulin injections.

Cerdak™ WTD: Cerdak ceramic devices applied to the wound as a dressing by the patient at home.

Other treatment: Amoxycillin 250mg 3x per day and Aspirin 150mg 1x per day, Paracetamol 500mg 2 x to 3x per day.

Result: The wound healed without event and the patient carried on with his daily tasks as normal. The wound was healed by day 17.

Comment: Any foot injury in diabetics present special challenges. The Cerdak devices have helped to make treatment of foot injuries and ulcers much easier.