



*“The time for action is now. It's never too late to do something.”
Antoine de Saint-Exupery*

“CURE”

INFORMATION LETTER

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Objectives of the “Cure” method

1. To promote research into, and knowledge of, the causes, mechanisms, diagnosis, treatment, and other aspects of the “CURE” method.
2. To provide a forum for the exchange of ideas related to the “CURE” method.
3. To educate physicians, other health professionals and the general public about the “CURE” method
4. To encourage the management of acute and chronic conditions to be conducted in a scientific and ethical manner.
5. To promote, arrange and conduct meetings, seminars, conferences lectures, discussions and courses of study on the “CURE” method and related topics.

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Incontinence: A researched understanding and perspective from a non-medical professional

Continence is the ability to control your bladder or bowels. Incontinence is a disease that affects over five million Australians. It can range from small leaks occasionally to complete loss of bladder or bowel control. For the purpose of this article, there will be a focus on Urinary Incontinence, and the different types.

According to the Continence Foundation of Australia, a normal bladder does not leak urine. It will empty 4-8 times a day (or every 3-4 hours). It can hold up to 400-600ml of urine (the sensation of needing to empty occurs at 200-300ml). A healthy bladder may wake you when it is full but gives you enough time to find a toilet. This means that incontinence sufferers can find that these indicators are not occurring, either at all or on a regular basis. Symptoms of incontinence can range based on what kind of incontinence the patient may suffer from.

- Incontinence is a fairly common concern among the general population, with over five million Australians suffering with some form. Continence.org.au estimates this number to be 6.5 million by 2030. It does not discriminate and can affect both men and women of all ages, including children. The gender disparity between those who suffer from urinary incontinence is significant, with 3 in 10 men suffering from incontinence, but up to 80% being women. Age can play a major role in the frequency of occurrence in women, and 1 in 3 women who have never had children wet themselves. With each time a woman gives birth, her risk of developing incontinence increases. Around 3% of the population aged 7-12 years' experience regular urinary incontinence that disrupt their lives.

There are also several types of incontinence. According to Harvard Health Publishing:

- **Stress incontinence.** Urine leaks when you exert pressure on your bladder by coughing, sneezing, laughing, exercising, or lifting something heavy.
- **Urge incontinence.** You have a sudden, intense urge to urinate followed by an involuntary loss of urine. You may need to urinate often, including throughout the night. Urge incontinence may be caused by a minor condition, such as infection, or a more-severe condition such as a neurologic disorder or diabetes.
- **Overflow incontinence.** You experience frequent or constant dribbling of urine due to a bladder that does not empty completely.
- **Functional incontinence.** A physical or mental impairment keeps you from making it to the toilet in time. For example, if you have severe arthritis, you may not be able to unbutton your pants quickly enough.

There is also an extremely rare form of incontinence known as **Detrusor underactivity**. It is extremely uncommon in the younger population and only occurs in 5 – 10% of older people. Causes of this form of incontinence include the following:

- Fibrosis of the detrusor muscle secondary to chronic outflow obstruction (i.e., the bladder muscle becomes scarred due to prolonged damage).
- Peripheral neuropathy (e.g., due to diabetes mellitus, vitamin B12 deficiency etc.)
- Damage to the spinal efferent nerves supplying the detrusor muscle.

Due to its presentation in the media, incontinence can seem like an embarrassing problem for many, with 70% not seeking help for urinary incontinence. If left untreated, incontinence can not only lead to some situations of uncontrolled bladders, but may develop into further complications, such as Candida (thrush), UTI's, sleep deprivation (due to frequent urination at night), pressure sores and blood poisoning. It can also take a psychological toll on the sufferer, leading to a significant decrease in the quality of life.

There are some traditional treatment pathways that a patient can take to control their incontinence and relieve their symptoms. Medication is the most common option, along with surgical options. According to a review of a collection of studies conducted by Riemsma, R., Hagen, S., Kirschner-Hermanns, R. *et al.*, surgical intervention is a viable alternative to help manage the symptoms of those who suffer from incontinence. However, also according to their review, "...a large proportion of individuals treated for incontinence were not cured and may continue to rely on containment strategies, such as behavioral strategies and containment products" (Riemsma et al., 2017). A cure, according to their review, "...was defined as no leakage (UI) and/or no episodes of FI at trial specified time points, of at least 3 months. Success rates for containment were defined as the percentage of patients with no limitations to activities of daily living, quality of life, or social interaction" (Riemsma et al., 2017).

While there is a lot of research being conducted into alternative methods of treatment, there are some less traditional routes that a patient may find themselves down in an attempt to relieve the symptoms of incontinence. These can include turning to Eastern Medicine methods such as acupuncture, as well as some lifestyle modifications that can be made to minimise the symptoms, such as a cessation of smoking, avoiding consuming alcohol or caffeine, over-consuming liquids and incorporating a range of exercises into daily life.

Of course, with the CURE approach, we encourage patients to seek a wide range of complex treatments.

List of sources:

<https://www.continence.org.au/about-continenace/understanding-incontinence>

<https://www.healthdirect.gov.au/incontinence>

<https://www.jeanhailes.org.au/health-a-z/bladder-bowel/bladder-incontinence>

<https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/incontinence-and-continenace-problems#:~:text=Bladder%20and%20bowel%20control%20problems,urgency%20to%20go%20without%20leakage>

<https://www.continence.org.au/about-us/our-work/key-statistics-incontinence>

<https://pubmed.ncbi.nlm.nih.gov/31855097/>

<https://www.stlukes-stl.com/health-content/medicine/33/000168.htm>

<https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-017-0828-2#Sec17>

<https://www.nhs.uk/conditions/urinary-incontinence/10-ways-to-stop-leaks/>

<https://www.health.harvard.edu/bladder-and-bowel/types-of-urinary-incontinence>

<https://healthengine.com.au/info/urinary-incontinence>

The CURE Method as a support program for Urinary Incontinence

Urinary incontinence is the pathological condition causing loss of voluntary control of urination.

Urinary incontinence can range in severity from a small leak after sneezing, coughing or laughing, to complete loss of bladder control - inability to control urination.

Shyness and denial of the process of ageing, especially in women, mask the real statistical picture of this problem, but it should be noted that 50% women at the ages of 45 to 60 years old have experienced uncontrollable urinary leakage. In Australia, urinary incontinence is a common condition affecting 1 in 3 women, 1 in 10 men and 1 in 5 children.

Most common types of urinary incontinence include:

- Stress incontinence. 24 – 45 percent in women older than 30 years. **Due to weakness in the urinary sphincter and/or pelvic floor.**

Loss of small amount of urine during physical activity or intra-abdominal pressure (coughing, sneezing, jumping, lifting, exercise); can occur with minimal activity, such as walking or rising from chair. Patient usually can predict which activities will cause leakage.

- Urge incontinence. **Disturbances in nerves, smooth muscle, and urothelium can cause this condition.** You have a sudden, intense urge to urinate followed by an involuntary loss of urine. You may need to urinate often, including throughout the night. Urge incontinence may be caused by a minor condition, such as infection, or a more-severe condition such as a neurologic disorder or diabetes.
- Overflow incontinence. Usually **associated with a reduced sensation of bladder fullness and a feeling of incomplete bladder emptying. Impaired detrusor contractility is typically neurogenic in nature.**

Causes include diabetes mellitus, lumbosacral nerve disease from tumors, meningomyelocele, MS, prolapsed intravertebral disks, and high spinal cord injuries. Occurs when the patient is unable to completely empty your bladder; this leads to overflow, which leaks out unexpectedly. You may or may not sense that your bladder is full.

- Mixed incontinence. 20 to 30 percent of patients with chronic incontinence. Combination of stress and urge incontinence. Involuntary leakage associated with symptoms of urgency, loss of urine with exertion, effort, sneezing or coughing.

Considering, that **Urinary Incontinence** is most commonly a multifactorial problem, which is usually associated and/or a result of previous or current underlying condition, we understand that the approach to the management of it should be complex and target not only incontinence itself, but also associated medical and social aspects of this problem.

Sheffield Medical Centre is servicing people living in remote rural areas in central Tasmania. Unfortunately, the number of services able to help people with continence problem is limited and some of them are just not available. Most of our patients have already tried to manage the problem in the past with varying degrees of success but had to stop due to different medical and social reasons.

Of course, in our management we are following the current clinical recommendations and guidelines of RACGP and other Australian and international authorities.

We conduct a clinical assessment which is largely based on a combination of history, physical examination, bladder diary and basic testing of urine and bladder emptying. A clinical diagnosis of stress, urge or mixed urinary incontinence can then usually be made and conservative management is instituted.

Our diagnostic and management approach based on the pathoanatomical, pathophysiological and social aspects of the problem.

It is hard to find pure stress or urge incontinence. Most of our patients have a mix of different types of this problem. As we know, the major pathophysiological factors of urinary incontinence are:

- **weakness of the muscles** of the pelvic floor, core muscles and sphincter,
- **Nerve's disturbance**
- Reduced elasticity of the pelvic tissues due to age related **reduction of microcirculation**
- Underlying medical conditions

The “CURE” method is the complex approach to patient's medical and social problem. The “CURE” method allows us selectively to target possible underlying problems associated with incontinence. We use:

- Electrical stimulation (TENS) aiming increase of the pelvic floor and core muscle tone and strength.
- Photo-biomodulation (Low Level Laser Therapy) aiming increase of pelvic tissues microcirculation.
- Both of these methods also can have positive effect on bladder sphincter tone and neural regulation of micturition.
- Resistant exercises enhance the achieved bladder control and maintains it for a long time.

Pelvic floor and core muscles “retraining”

Stress Incontinence is mainly due to pathological changes (anatomical and physiological) of the urinary system, especially the urogenital diaphragm which results in sphincter weakness (urethral sphincter and/or pelvic floor weakness).

The most common factor for incontinence which we are dealing with is age.

Loss of urethral closure pressure probably results from age-related deterioration of the urethral musculature as well as from neurologic injury. The total number of striated muscle fibres within the ventral wall of the urethra decrease sevenfold as women progress from 15 to 80 years of age, with an average loss of 2% per year.

The concomitant sevenfold age-related loss of nerve fibres in these same striated muscle fibers in the same tissues.

To prevent or even reverse the muscle deterioration, the “Controlled Muscle Contractions” type of electrostimulation of the pelvic floor and core muscles routinely used.

Strength gains, measured by maximal voluntary isometric contraction, following 4-5 weeks of electrical stimulation training were reported to be 30-40% improved. Voluntary strength retention, without electrical stimulation retraining, was reported to be near total retention for 3 months and 90% retention for 10 months. Healthy striated muscle can increase its strength by about 30% after an intensive 8–12 weeks progressive resistance training intervention. In Sheffield Medical Centre we offer an Exercise Rehabilitation Program as maintenance or even increase of the achieved results after electrostimulation and most of our patients are actively participating in it.

Neural Regulation of micturition.

Urge Incontinence. The current treatment options for Urge Urinary Incontinence are based on the hypothesis that Urge Urinary Incontinence is a neurological disorder.

- Pelvic parasympathetic nerves: arise at the sacral level of the spinal cord, excite the bladder, and relax the urethra.
- Lumbar sympathetic nerves: inhibit the bladder body and excite the bladder base and urethra. Pudendal nerves: excite the external urethral sphincter.

In other words, the neural regulation of the micturition is the balance and cooperation of two parts of the Autonomic Nerve System. Disbalance and discoordination for number of reasons between these parts of the ANS can lead to the discoordination of processes of filling and emptying of the bladder and therefore, contribute to the development of Urge Urinary Incontinence.

Due to its mechanism of action on physiological processes, laser light is able to affect the components of ANS, cause regulating systemic changes and hence, remove the reason for the condition – disbalance between sympathetic and parasympathetic parts and restore the proper function of the bladder. There is nothing unusual in the universal mechanism of action of Low Intensity Laser Illumination: this is the result of the elimination of the pathological fixation of our body's systems beyond normal physiological regulation.

PBM (LLLT) is known as a method which effectively positively influences physiological processes at the organism level:

- increase microcirculation.
- Reduce inflammatory processes.
- Positive neurohumoral regulation
- Reparative processes
- Spasmolytic effects
- Pain relief, etc.

Obviously, triggering the above processes with PBM(LLLT) will lead to the repairing of pelvic structures partially or in full. A positive effect in micturition control could be achieved relatively quickly and be maintained for weeks or months.

In parallel with pelvic floor and core muscles retraining with electrostimulation and PBM (LLLT) illumination of the pelvic tissues we use another type of TENS - microcurrents in the Lumbar and Sacral level of the column.

Low level endogenous electrical currents are the triggers that stimulate healing, growth, and regeneration in all living organisms.

Microcurrent stimulation increased adenosine triphosphate (ATP) generation by almost 500 percent.

Microcurrent was also shown to enhance amino acid transport and protein synthesis in the treated area 30 to 40 percent above controls.

Thus, applying this type of electrotherapy we aim to repair or minimize damage of the nerves supplying bladder and eliminate another reason for Urge Urinary incontinence

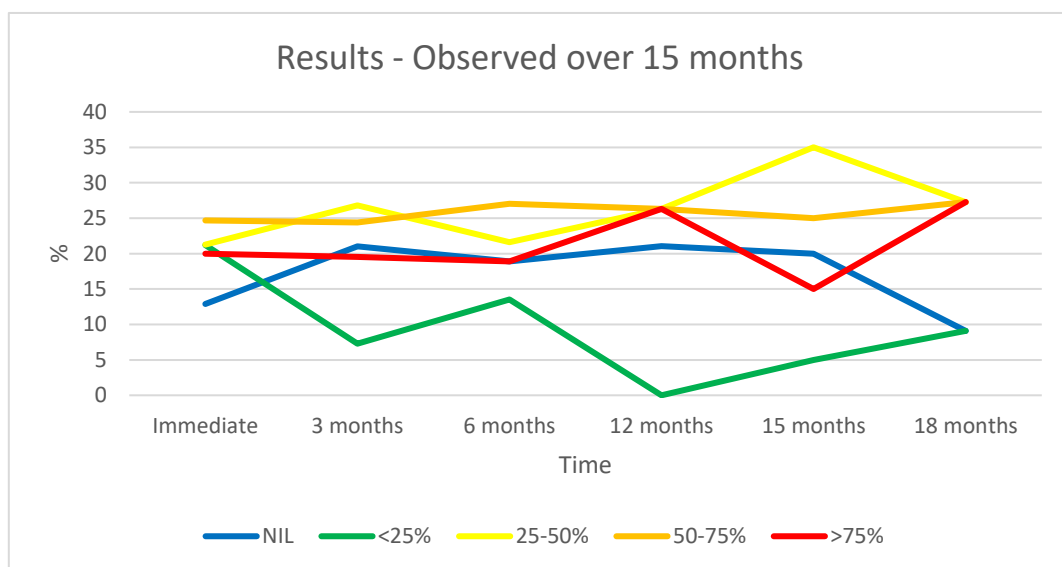
Mixed incontinence is urinary incontinence resulting from a combination of stress and urge incontinence. Approximately 40-60% of females with incontinence have this combination. Mixed incontinence is a common finding in older patients with urinary incontinence disorders. Most of our patients have this type of condition and that is why when we decide which method to apply for each individual case, most likely we use combination of all three (Muscle retraining, PBM (LLLT) and microcurrents) simultaneously.





Social factor.

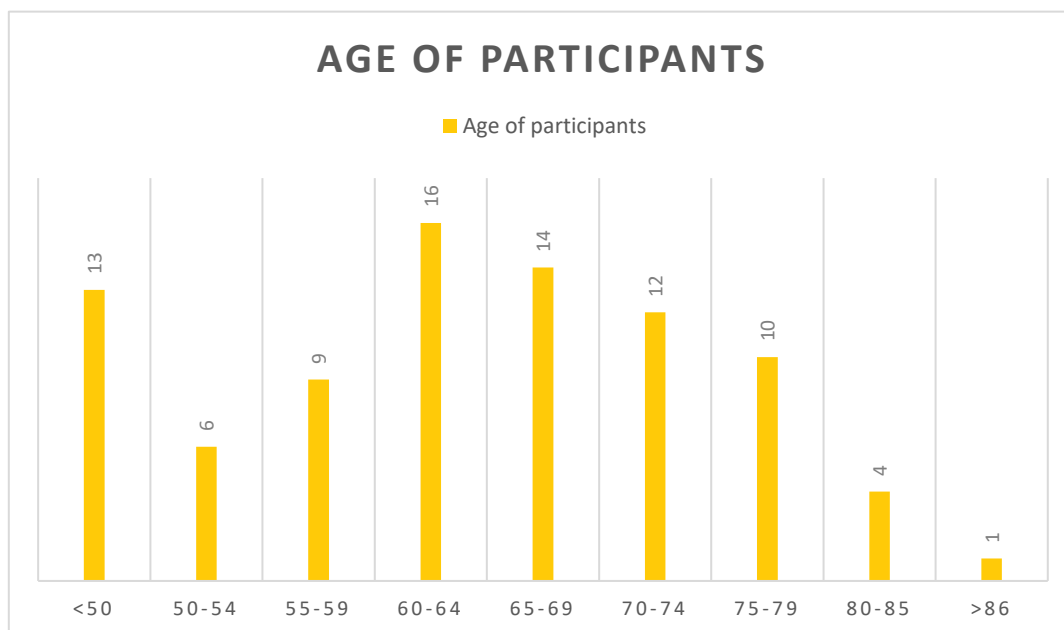
Living in rural areas with an absence of or distant and restricted specialized services - both medical and social, creates inconvenience and hesitancy to participate in specialized incontinence and other programs. In the Sheffield Medical Centre people get access to the option when they try to achieve the bladder control reasonably quickly and what is even more important, they can maintain their achievement participating in the Rehabilitation Exercise Program. Very important factor is the people who achieved successful outcome could share their experience with others.

Patients can also repeat the course of “CURE” therapy if necessary.

Statistics



	Immediate - 85 patients	3 months - 41 patients	6 months - 37 patients	12 months - 19 patients	15 months - 20 patients	18 months - 11 patients
Nil improvement 	12.9% (11)	21% (9)	18.91% (7)	21.05% (4)	20% (4)	9.09% (1)
<25% improvement 	21% (18)	7.3% (3)	13.5% (5)	0	5% (1)	9.09 (1)
25-50% improvement 	21% (18)	26.82% (11)	21.62% (8)	26.31% (5)	35% (7)	27.27% (3)
50-75% improvement 	24.7% (21)	24.39% (10)	27.02% (10)	26.31% (5)	25% (5)	27.27% (3)
>75% improvement 	20% (17)	19.51% (8)	18.91% (7)	26.31% (5)	15% (3)	27.27% (3)



Discussion:

Gathering of results began with 85 participants who were being treated for incontinence and associated problems.

As seen in the Table 2, the biggest number of patients were aged between 60 and 69 years, consisting of more than 30% of all participants.

The results of the “CURE” management are shown in Table 1. We observed the outcome of our management using the “CURE” method over the span of 1.5 years. As an assessment tool we used a self-satisfaction scale where 0 is full bladder control and 10 – no bladder control at all.

Immediately after treatment, only 12.9% of the patients did not achieve any results, and well over 20% of patients achieved results in each subsequent category with the biggest number of patients improving their pre-treatment condition between 50 and 75%. It was interesting to observe that this result was stable and the highest along all periods of our observation.

Overall, most of the patients were happy with the ability to improve their bladder control even at a mild level, which definitely made a great change in their self-esteem, sleep schedule, reopened the possibility to return to their normal routines and participate in community activities – in other words, to improve the quality of life.

CASE STUDY

F.A. 76 y.o male

PMH – Prostate CA, Radical prostate ectomy – 2012

August 14, 2013: post radiation therapy rectal burning sensation

Detrussor instability – 2015

OA – become evident and started to affect his ADL from 2008.

HT From 2010, up and down control with different medications, From 2013 – continuously normal range of BP.

Depression - 2012

March 2014 - Started Rehabilitation Exercises

Last prescription of Panadeine forte – November 2018

Current medications: Crestor 10 mg, Exforge HCT 10/160/12.5, Pristiq 100 mg

PH of Ditropan and Betmiga

Last prescription of Betmiga for symptomatic treatment of urgency, increased micturition frequency and/or urgency incontinence in patients with overactive bladder (OAB) syndrome.
– 07.09.2017

PBM/LLLT + CMC Abdo/Pelvis – 22.08.2019, 03.03.2020, 28.09.2020

Past - Wore a pad every day, urination occurred without warning and patient was unaware, especially when bending or lifting. Impact on daily life is 7/10. Nocturia > 3 times every night

Present - Not wearing a large pad anymore. States when they get the urge to urinate, they can hold longer but must eventually go. Happy with the outcome. Improvement noted, Nocturia x 2 overnight, now getting up once per night, rarely twice, less urgency.

Male stress urinary incontinence

The main pathophysiology behind SUI in men relates to the underlying dysfunction of the urethral sphincter complex and/or change in the urethral axis. This is often a complication following prostate surgery, such as a radical prostatectomy or transurethral resection of prostate (TURP). Other causes of male SUI are iatrogenic sphincter injuries (e.g. sphincterotomy in spinal patients), neurological conditions or trauma to the pelvic floor (e.g. pelvic trauma in motor vehicle accident).

Incontinence rates after prostatectomy vary in the current literature and can be as high as 80%. There are a number of explanations as to the cause of postprostatectomy incontinence, and it is likely that it is multifactorial in origin. Radical Prostatectomy removes a number of control mechanisms for urinary continence and potentially damages others. Incontinence after RP can broadly be divided into two causes: urethral and detrusor.

Urethral causes of incontinence have been found to be a result of urethral sphincter incompetence, changes in urethral length, or postoperative strictures.

Given that the majority of patients recover continence over a period that is variable and can range from 6 months to 12 months in most cases, it is less likely that sphincter incompetence is a result of damage to the sphincter itself and is more likely to be a result of damage to supporting structures and nerves, which recover over time. This hypothesis is supported by evidence of autonomic denervation of the membranous urethral mucosa found in 77% to 92% of incontinent men after Radical Prostatectomy.

It is likely that the combination of intraoperative nerve and neurovascular damage has effects on both the detrusor and ureteric function, and this combination results in varying degrees of incontinence, depending on the amount of neurovascular involvement.

Using Photobiomodulation (Low Level Laser Therapy) and the Controlled Muscle Contractions method of electrotherapy which we used at the Sheffield Medical Centre as a part of the “Cure” method targeted two main points – to improve neurovascular damage and to increase potency of detrusor, sphincter and pelvic muscles.

PBM (LLLT) has a regulating effect due to its mechanism of action on physiological processes. Laser Light is able to affect the components of the Autonomic Nerve System, cause regulating systemic changes and hence, remove the reason for the condition – which is a disbalance between the sympathetic and parasympathetic parts and restore the proper function of the bladder.

The electrotherapeutic method of Controlled Muscle Contraction is able to improve the strength of different types of muscles to up to 40%. Some studies suggest that denervated muscles improve their functionality after stimulation by this type of electrical current.

Patient also participates in an ongoing Rehabilitation Exercise Program with a focus on core and pelvic muscles, which helps him keep effective bladder control between courses of PBM (LLLT)+CMC core and pelvic muscles.

The success of the management in regaining patient’s bladder control confirms the correct choice in applied treatment methods. As a result, patient is able to return to normal life, able to participate in normal daily activities, feels physically and mentally stable and happy.

OUR SUPPORTERS



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“CURE”
EQUIPMENT FOR
“CURE”
METHOD

Areas of Application for “CURE” equipment

General Medicine - Sport Medicine - Musculoskeletal Medicine - Dermatology/Cosmetology - Gastroenterology
Gynaecology - ENT - Neurology - Chronic Non-Healing Wounds - Physiotherapy - Podiatry - Beauty Therapy -
Lymphatic drainage - Weight management

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