

<http://www.pressure-ulcer.net/>

*A film-dressing therapy*  
*[Open Wet-dressing Therapy (OWT)]*  
*for pressure ulcers.*  
-a revolution of end of life care-

**Takeo SAIO** (Fuji Toranomon Health Promotion Center)  
**Shunichi TORIYABE** (Center for Pressure Ulcers, Aizawa Hospital)  
**Chieko KURIHARA** (Controller Committee)

*WONCA AP 2005, Kyoto, Japan. May 30<sup>th</sup>*

## ***Abstract:***

**Background:** As the population ages, pressure ulcers are a growing health issue, leading to clinical, financial and emotional challenges. Numerous treatment modalities have been proposed, but their feasibility remains to be questioned.

**Purpose:** We will show the Open Wet-dressing Therapy (OWT), film-dressing therapy, an innovative approach to pressure ulcers, which may replace conventional treatments such as Occlusive Dressing Therapy (ODT).

**Method and Result:** We will present basic ideas and scientific basis of OWT. Then summarize criticisms or disputes directed against the therapy and refute each of them from the view point of evidence-based practice (EBP).

**Conclusion:** OWT is both rational and potent therapeutic modality for pressure ulcers in the aged society.

# ***End of life care and decubitus ulcers.***

- **Prevalence[incidence/yr.]** (varies with clinical settings)
  - **Long-term care facilities: 3~15%[~10%/year]**
    - Decubitus Ulcer/diagnosis/\*epidemiology/etiology/prevention & control[MeSH]=hit 12
    - Japan: 8%?[?]
  - **terminal stage malignancy:8~24%**
    - ("Decubitus Ulcer/epidemiology"[MeSH] OR "Decubitus Ulcer/etiology"[MeSH]) AND "Terminal Care"[MeSH]=hit 13
- **Hamburg Scandal**
  - over 10000 cases of postmortem exam.(11.2% has decubitus ulcers; half of Grade IV ulcers were detected in nursing home residents!)
    - Heinemann A. et al. *Dtsch Med Wochenschr.* 2000 Jan 21;**125**(3):45-51.
    - Heinemann A. et al. *Z Gerontol Geriatr.* 2001 Dec;**34**(6):509-16.

# Low ADL population among the aged.

*Report of Japanese MHW working party 1988*

- **Low ADLs among nursing home/ward residents.**
  - Japan: 40.9%
  - Sweden: 4.2%
  - US: 6.5%
- **Low ADLs among the aged people cared at home.**
  - Japan: 0.6%
  - Denmark: 0.1%

**Has Japan undergone significant changes ever since?**

# Theoretical basis of wound healing

- **Wound Bed Preparation (WBP)**
  - Debridement of non-viable tissue
  - **Occlusion of the wound** to maintain moist environment (Moist Wound Healing: MWH)
  - **Infection control**

Calne S eds. Wound Bed Preparation in practice. European Wound Management Association; 2004.

## *OWT (Toriyabe's method ) of treating pressure ulcers.*

- **Open Wet-dressing Therapy (OWT) for pressure ulcers.**
  - Wet-dressing Therapy with plastic films (food-wrap).
  - To enhance autolytic debridement.
  - To ensure drainage of infected wound.
- **Lack of comparative study with conventional therapeutic modalities.**
  - Conventional methods also lacks well-designed RCT or cohort study.
    - topical agents (e.g.ointment) lack stematic reviews.
    - Dressings lack systematic reviews.
  - There is no evidence to tell which methods are better at this moment.

<http://www.pressure-ulcer.net/>

## Pressure ulcer care in OWT: Dressing with a film-posted diaper.



1. Prepare porous polyethylene film.
2. Rinse the wound and the buttocks with tap water and dry the skin with paper towel.
3. Post the film large enough to cover the entire area concerned on the paper diaper. Wear the film-posted diaper. Caring time takes only 2 minutes.

## Case Report

A female patient in her twenties developed a pressure ulcer (3.5 × 4.5 cm, NPUAP Stage 3) in the sacral region. The wound was dressed with a food-wrap. (Week 0)

Necrotic tissue was self-digested. Smooth surface of the wound bed is characteristic of OWT. ((Week 1)

As wound margin flattened, epidermis started covering the wound surface. (Week 20)

The entire area was covered with epidermis. (Week 24)





# Lines of evidence concerning OWT:

- **Status quo.**
  - OWT has been widely adopted in hundreds of medical institutions and nursing homes in Japan.
  - Academic societies of Japan (e.g. Japanese Society of Pressure Ulcer) are reluctant to approve or strongly oppose OWT on the basis of “lack of evidence” .
- **Basic sciences.**
  - OWT is an ideal realization of modern theory: Wound Bed Preparation.
  - The name of the game is to keep the wound **open** (not occluded) and **wet**.
  - Exudate or purulent material are not contained in the wound bed. Containment of exudate is undesirable, as it makes ideal conditions for bacterial culture and increases the risk of topical infection and septicemia,

# Controversy over OWT.

- Cons: A plastic film keeps surrounding skin wet and macerate it.  
**Refutation:** Maceration is seldom found in OWT and is rather common in ODT (e.g. polyurethane foam, hydrocolloid dressings).
- Cons: ODT should not be indicated to infected wounds.  
**Refutation:** OWT is NOT ODT. OWT is the ideal treatment for infected wounds.
- Cons: Toxicological study of food-wrap is not fully performed.  
**Refutation:** Food-wrap is so sanitary that you can wrap food.
- Cons: Food-wrap lacks permeable to oxygen or vaper.  
**refutation:** Permeability of polyurethane film is confirmed only at laboratory. Clinical evidence of the effects of its permeability is lacking. Besides humans are not like frogs that take oxygen through the skin.
- Cons: Lack of governmental authorization.  
**refutation:** Patients have the right to choose his/her own treatment. Authorization by patients is primary in patient-physician relation.

## Summary

1. OWT is a simple, potent, less costly, and patient-oriented therapeutic modality.
2. Evidence levels of OWT as well as other treatments are both limited.
3. OWT is a rational treatment.
  - Ideal realization of pathophysiology of the wound healing.
  - No secondary injury to the wound by dressing.
  - Versatile solution to ulcers at all stages.

# Discussion

- The basics of wound treatment is keeping the wound moist and open for drainage at the same time. Open Wet-dressing Therapy (OWT) meets both the requirements and thus proved to be a versatile solution for pressure ulcers at all stages; infected/uninfected, with/without necrotic tissue, with/without cavities or undermining.
- OWT is NOT occlusive dressing therapy (ODT) in that OWT does NOT close the wound. A food-wrap or a transparent-posted diaper keeps the wound surface wet and open. Excessive fluid is wicked away from the margin of the film and soaked by the diaper. Because fluid leaks out away from the wound/dressing interface, exudate or purulent material are not contained in the wound bed. Containment of exudate is undesirable, as it makes ideal conditions for bacterial culture and increases the risk of topical infection and septicemia, which is the reason surgeons incise a boil for drainage to control infection.
- Pressure ulcers with infection may be given a minimal incision to drain the purulent material and then treated with OWT. Antibiotics should be given systemically, and the infection will subside in a few days.