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# Collagenase SANTYL<sup>®</sup> Ointment 250 units/g clinical competency for acute care providers

Trainee version

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The Collagenase SANTYL Ointment clinical competency for acute care providers was developed with input from the Professionals Dedicated to Quality Wound Care.

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## Introduction

This clinical competency booklet has been developed for acute care providers who use or prescribe Collagenase SANTYL® Ointment. The target audience for this Collagenase SANTYL Ointment competency includes:

- Licensed Nurses (RNs, LPNs)
- Physical Therapists
- Physician Assistants
- Nurse Practitioners
- Physicians

## Objectives




- Distinguish the indications for Collagenase SANTYL Ointment in debridement
- Explain the mechanism of action of Collagenase SANTYL Ointment
- Review the appropriate amount of Collagenase SANTYL Ointment per application
- Demonstrate proper application for Collagenase SANTYL Ointment
- Demonstrate proper clinical practice when administering Collagenase SANTYL Ointment

In the back pocket of this Clinical Competency, you will find “A patient’s guide to Collagenase SANTYL Ointment.” Please feel free to provide a copy to your patient, or your patient’s caregiver, if they are being discharged home with an order to continue treatment with SANTYL. Further copies of this guide are available in both English and Spanish on the patient portal of the SANTYL website at [www.santyl.com](http://www.santyl.com).



# Enzymatic debridement with Collagenase SANTYL® Ointment

Collagenase SANTYL Ointment is the only FDA-approved enzymatic debrider. SANTYL Ointment is indicated for debriding chronic dermal ulcers and severely burned areas.

	Pressure ulcer stage 4-knee	Pressure ulcer unstageable-hip	Diabetic foot ulcer	Burn	Non-progressing venous leg ulcer
					
<b>Description</b>	Partial to full thickness wound with slough/fibrin	Wound with eschar/dried necrosis	Full thickness wound with slough; signs of surgical removal of callus on margins	Deep, partial thickness burn with white eschar	Non-progressing wound
<b>Drainage</b>	Minimal to heavy	None	Low to moderate	Minimal to heavy	None to heavy
<b>Clinical action</b>	Active, selective debridement	Active, selective debridement	Active, selective debridement	Active, selective debridement	Active, selective debridement
<b>Treatment goal</b>	Clean, granulating wound bed	Clean, granulating wound bed	Clean, granulating wound bed	Clean burn without necrotic tissue	Progression

**Not intended to supersede independent clinical judgment or institutional protocols.**

Collagenase SANTYL Ointment is indicated for debriding chronic dermal ulcers and severely burned areas.

Occasional slight transient erythema has been noted in surrounding tissue when applied outside the wound. One case of systemic hypersensitivity has been reported after 1 year of treatment with collagenase and cortisone. Use of Collagenase SANTYL Ointment should be terminated when debridement is complete and granulation tissue is well established.

Debilitated patients should be closely monitored for systemic bacterial infections because of the theoretical possibility that debriding enzymes may increase the risk of bacteremia.

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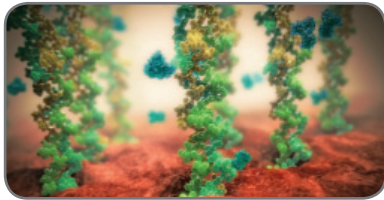
## What is Collagenase SANTYL® Ointment?

### Collagenase SANTYL Ointment 250 units/g clears the way for healthy tissue



SANTYL Ointment is a licensed biologic and the only FDA-approved enzymatic debrider.

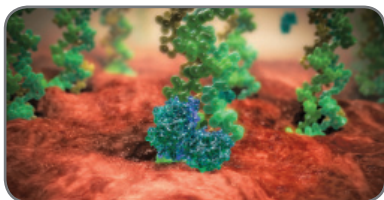
### Actively and selectively remove necrotic tissue without harming granulation tissue



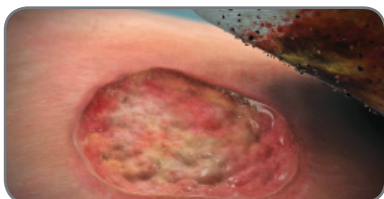
In an untreated wound, strands of collagen anchor necrotic tissue to the wound bed.



SANTYL Ointment penetrates the wound surface by migrating through the edges of the wound and between pockets of slough, eschar, and dead tissue.



SANTYL Ointment selectively attacks this collagen and cleaves the fiber at its attachment point. This detaches the fiber from the wound bed and frees the wound of necrotic debris.



After SANTYL Ointment cleaves and degrades the fiber, the necrotic debris can be successfully removed through subsequent cleansing and dressing changes.

Occasional slight transient erythema has been noted in surrounding tissue when applied outside the wound. One case of systemic hypersensitivity has been reported after 1 year of treatment with collagenase and cortisone. Use of Collagenase SANTYL Ointment should be terminated when debridement is complete and granulation tissue is well established.

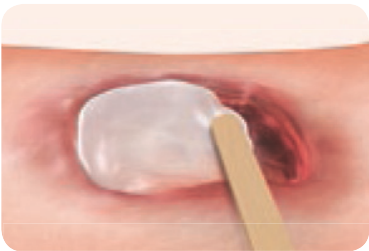
# Application process for Collagenase SANTYL® Ointment

## 1 Cleanse

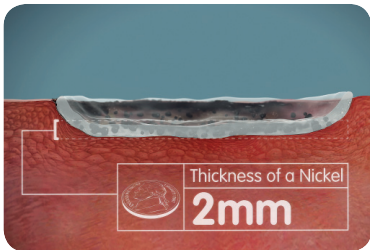


- Remove as much loose debris from the wound as possible
- Gently cleanse the wound bed with sterile saline or an appropriate wound cleanser (optimal pH 6-8) followed by saline, each time a dressing is changed
- When necessary, have a **properly licensed clinician** crosshatch thick eschar with a #10 blade to ensure optimal surface contact

## 2 Apply



- Apply directly to the wound or to a sterile gauze pad, which is then applied to the wound and properly secured
- Apply SANTYL Ointment at 2mm thickness (approximately nickel thickness)
- Apply SANTYL Ointment within the area of the wound
- Apply once daily (or more frequently if the dressing becomes soiled, as from incontinence)



### Use the appropriate amount of ointment

- Three clinical trials found Collagenase SANTYL Ointment to be efficacious when applied at nickel thickness (2mm)<sup>1-3</sup>

## 3 Cover



- Wounds with sufficient exudate will naturally activate the collagenase enzyme, but a dry wound bed may require additional moisture
- Do not use dressings containing heavy metals such as iodine (I<sub>2</sub>) with SANTYL Ointment, as these ions affect the activity of collagenase, the active enzyme in SANTYL Ointment<sup>4</sup>

## Considerations in case an infection develops:

- You may apply a topical antibiotic powder before applying SANTYL Ointment
- If infection persists, discontinue use of SANTYL Ointment until the infection is resolved

### Not intended to supersede independent clinical judgment or institutional/agency protocol.

Collagenase SANTYL Ointment is indicated for debriding chronic dermal ulcers and severely burned areas.

Occasional slight transient erythema has been noted in surrounding tissue when applied outside the wound. One case of systemic hypersensitivity has been reported after 1 year of treatment with collagenase and cortisone. Use of Collagenase SANTYL Ointment should be terminated when debridement is complete and granulation tissue is well established.

# Collagenase SANTYL® Ointment estimated amount per application

## 30g tube: length (cm) of SANTYL Ointment line per application based on wound dimensions

cm x cm	1cm	2cm	3cm	4cm	5cm	6cm	7cm	8cm
1cm	0.5cm	1.0cm	1.6cm	2.1cm	2.6cm	3.1cm	3.6cm	4.1cm
2cm	1.0cm	2.1cm	3.1cm	4.1cm	5.2cm	6.2cm	7.2cm	8.3cm
3cm	1.6cm	3.1cm	4.7cm	6.2cm	7.8cm	9.3cm	10.9cm	12.4cm
4cm	2.1cm	4.1cm	6.2cm	8.3cm	10.3cm	12.4cm	14.5cm	16.5cm
5cm	2.6cm	5.2cm	7.8cm	10.3cm	12.9cm	15.5cm	18.1cm	20.7cm
6cm	3.1cm	6.2cm	9.3cm	12.4cm	15.5cm	18.6cm	21.7cm	24.8cm
7cm	3.6cm	7.2cm	10.9cm	14.5cm	18.1cm	21.7cm	25.3cm	28.9cm
8cm	4.1cm	8.3cm	12.4cm	16.5cm	20.7cm	24.8cm	28.9cm	33.1cm

### 30g tube:

3.04cm (1.20in) = approximately 1g



**Formula:** estimated length of SANTYL Ointment ("SO") needed from 30g tube  
 = Wound area x nickel depth x SO density x approx. length of 1g of SO  
 = (Xcm<sup>2</sup>) x (0.2cm) x (0.85g/cm<sup>3</sup>) x (3.04cm/g)

## 90g tube: length (cm) of SANTYL Ointment line per application based on wound dimensions

cm x cm	1cm	2cm	3cm	4cm	5cm	6cm	7cm	8cm
1cm	0.3cm	0.6cm	0.9cm	1.2cm	1.5cm	1.8cm	2.1cm	2.4cm
2cm	0.6cm	1.2cm	1.8cm	2.4cm	3.0cm	3.6cm	4.2cm	4.8cm
3cm	0.9cm	1.8cm	2.7cm	3.6cm	4.5cm	5.4cm	6.4cm	7.3cm
4cm	1.2cm	2.4cm	3.6cm	4.8cm	6.1cm	7.3cm	8.5cm	9.7cm
5cm	1.5cm	3.0cm	4.5cm	6.1cm	7.6cm	9.1cm	10.6cm	12.1cm
6cm	1.8cm	3.6cm	5.4cm	7.3cm	9.1cm	10.9cm	12.7cm	14.5cm
7cm	2.1cm	4.2cm	6.4cm	8.5cm	10.6cm	12.7cm	14.8cm	16.9cm
8cm	2.4cm	4.8cm	7.3cm	9.7cm	12.1cm	14.5cm	16.9cm	19.4cm

### 90g tube:

1.78cm (0.70in) = approximately 1g



**Formula:** estimated length of SANTYL Ointment ("SO") needed from 90g tube  
 = Wound area x nickel depth x SO density x approx. length of 1g of SO  
 = (Xcm<sup>2</sup>) x (0.2cm) x (0.85g/cm<sup>3</sup>) x (1.78cm/g)

**Not intended to supersede independent clinical judgment or institutional protocols.**

Collagenase SANTYL Ointment is indicated for debriding chronic dermal ulcers and severely burned areas.

Occasional slight transient erythema has been noted in surrounding tissue when applied outside the wound.

One case of systemic hypersensitivity has been reported after 1 year of treatment with collagenase and cortisone.

Use of Collagenase SANTYL Ointment should be terminated when debridement is complete and granulation tissue is well established.

## Standard practice application\* for topical medications: Collagenase SANTYL® Ointment

1. Verify physician order
2. Assemble supplies
3. Knock on patient's door for permission to enter
4. Provide privacy for patient
5. Identify patient per policy
6. Ask patient if they are experiencing any pain. Report per policy
7. Explain procedure to the patient
8. Cleanse hands
9. Don/apply gloves
10. Remove soiled dressing. Dispose of in appropriate container
11. Measure wound and assess wound for appropriate documentation when treatment is completed
12. Remove gloves
13. Wash hands and don/apply gloves
14. Assess patient and wound per facility policy
15. Remove as much loose debris from the wound as possible
16. Gently cleanse the wound bed with sterile saline or an appropriate wound cleanser (optimal pH 6–8) followed by saline, each time a dressing is changed
17. If necessary, have a **properly licensed clinician** crosshatch thick eschar with a #10 blade to ensure optimal surface contact
18. Apply directly to the wound or to a sterile gauze pad, which is then applied to the wound and properly secured
19. Apply SANTYL Ointment at 2mm thickness (approximately nickel thickness)
20. Apply SANTYL Ointment within the area of the wound
21. Apply once daily (or more frequently if the dressing becomes soiled, as from incontinence).
22. Wounds with sufficient exudate will naturally activate the collagenase enzyme, but a dry wound bed may require additional moisture
23. Do not use dressings containing heavy metals such as iodine (I<sub>2</sub>) with SANTYL Ointment, as these ions affect the activity of collagenase, the active enzyme in SANTYL Ointment
24. Gather dirty supplies and bag. Dispose soiled bag in designated area
25. Remove gloves
26. Cleanse hands
27. Assure patient is safe and comfortable
28. Discuss treatment/progress with patient's family/caregiver if appropriate
29. Document wound measurements, assessment of the wound, patient tolerance and pain level at the completion of the treatment
30. Document with initial on the appropriate medical record that the treatment was completed per physician order

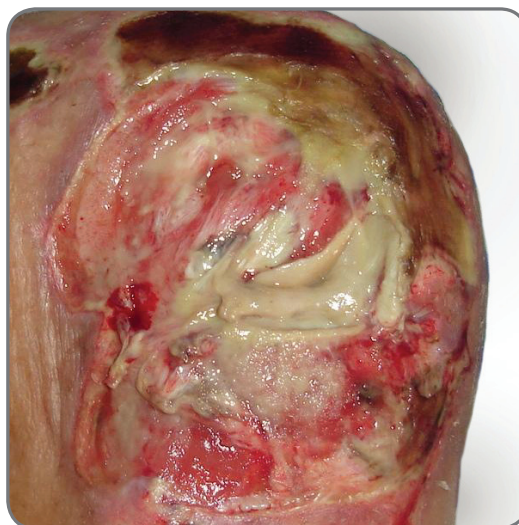
\*The above recommendations are based on standards and practices commonly utilized by PDQWC<sup>®</sup> members related to the application of Collagenase SANTYL Ointment in their respective practices; such recommendations are not intended to supersede independent clinical judgment or institutional protocols. Where laws, regulations, or other protocols/guidelines require or suggest an alternative approach to be taken, a clinician should follow such measures.



## Demonstration of Collagenase SANTYL® Ointment application sheet

### Applying Collagenase SANTYL Ointment to a wound

Directions: Select a wound, gather supplies and apply demonstration ointment to learn how to apply Collagenase SANTYL Ointment per package insert.



**This is for demonstration purposes only.  
Not intended to supersede independent clinical judgment or institutional protocols.**

**DESCRIPTION:** Collagenase SANTYL<sup>®</sup> Ointment is a sterile enzymatic debriding ointment which contains 250 collagenase units per gram of white petrolatum USP. The enzyme collagenase is derived from the fermentation by *Clostridium histolyticum*. It possesses the unique ability to digest collagen in necrotic tissue.

**CLINICAL PHARMACOLOGY:** Since collagen accounts for 75% of the dry weight of skin tissue, the ability of collagenase to digest collagen in the physiological pH and temperature range makes it particularly effective in the removal of detritus.<sup>1</sup> Collagenase thus contributes towards the formation of granulation tissue and subsequent epithelization of dermal ulcers and severely burned areas.<sup>2, 3, 4, 5, 6</sup> Collagen in healthy tissue or in newly formed granulation tissue is not attacked.<sup>2, 3, 4, 5, 6, 7, 8</sup> There is no information available on collagenase absorption through skin or its concentration in body fluids associated with therapeutic and/or toxic effects, degree of binding to plasma proteins, degree of uptake by a particular organ or in the fetus, and passage across the blood brain barrier.

**INDICATIONS AND USAGE:** Collagenase SANTYL<sup>®</sup> Ointment is indicated for debriding chronic dermal ulcers<sup>2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18</sup> and severely burned areas.<sup>3, 4, 5, 7, 16, 19, 20, 21</sup>

**CONTRAINDICATIONS:** Collagenase SANTYL<sup>®</sup> Ointment is contraindicated in patients who have shown local or systemic hypersensitivity to collagenase.

**PRECAUTIONS:** The optimal pH range of collagenase is 6 to 8. Higher or lower pH conditions will decrease the enzyme's activity and appropriate precautions should be taken. The enzymatic activity is also adversely affected by certain detergents, and heavy metal ions such as mercury and silver which are used in some antiseptics. When it is suspected such materials have been used, the site should be carefully cleansed by repeated washings with normal saline before Collagenase SANTYL<sup>®</sup> Ointment is applied. Soaks containing metal ions or acidic solutions should be avoided because of the metal ion and low pH. Cleansing materials such as Dakin's solution and normal saline are compatible with Collagenase SANTYL<sup>®</sup> Ointment.

Debilitated patients should be closely monitored for systemic bacterial infections because of the theoretical possibility that debriding enzymes may increase the risk of bacteremia.

A slight transient erythema has been noted occasionally in the surrounding tissue, particularly when Collagenase SANTYL<sup>®</sup> Ointment was not confined to the wound. Therefore, the ointment should be applied carefully within the area of the wound. Safety and effectiveness in pediatric patients have not been established.

**ADVERSE REACTIONS:** No allergic sensitivity or toxic reactions have been noted in clinical use when used as directed. However, one case of systemic manifestations of hypersensitivity to collagenase in a patient treated for more than one year with a combination of collagenase and cortisone has been reported.

**OVERDOSAGE:** No systemic or local reaction attributed to overdose has been observed in clinical investigations and clinical use. If deemed necessary the enzyme may be inactivated by washing the area with povidone iodine.

**DOSAGE AND ADMINISTRATION:** Collagenase SANTYL<sup>®</sup> Ointment should be applied once daily (or more frequently if the dressing becomes soiled, as from incontinence). When clinically indicated, crosshatching thick eschar with a #10 blade allows Collagenase SANTYL<sup>®</sup> Ointment more surface contact with necrotic debris. It is also desirable to remove, with forceps and scissors, as much loosened detritus as can be done readily. Use Collagenase SANTYL<sup>®</sup> Ointment in the following manner:

1 – Prior to application the wound should be cleansed of debris and digested material by gently rubbing with a gauze pad saturated with normal saline solution, or with the desired cleansing agent compatible with Collagenase SANTYL<sup>®</sup> Ointment (See **PRECAUTIONS**), followed by a normal saline solution rinse.

2 – Whenever infection is present, it is desirable to use an appropriate topical antibiotic powder. The antibiotic should be applied to the wound prior to the application of Collagenase SANTYL<sup>®</sup> Ointment. Should the infection not respond, therapy with Collagenase SANTYL<sup>®</sup> Ointment should be discontinued until remission of the infection.

3 – Collagenase SANTYL<sup>®</sup> Ointment may be applied directly to the wound or to a sterile gauze pad which is then applied to the wound and properly secured.

4 – Use of Collagenase SANTYL<sup>®</sup> Ointment should be terminated when debridement of necrotic tissue is complete and granulation tissue is well established.

**HOW SUPPLIED:** Collagenase SANTYL<sup>®</sup> Ointment contains 250 units of collagenase enzyme per gram of white petrolatum USP.

Do not store above 25°C (77°F). Sterility guaranteed until tube is opened.

Collagenase SANTYL<sup>®</sup> Ointment is available in 15 gram, 30 gram, and 90 gram tubes.

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Collagenase<sup>®</sup>  
**Santyl**  
Ointment 250 units/g

A patient's guide  
to Collagenase  
SANTYL<sup>®</sup> Ointment

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