
2018
WORLD CONGRESS
OF COMPOUNDING
Global Partner. One Mission.

2018
WORLD CONGRESS
OF COMPOUNDING

Follow Us on Social Media

#WCC2018VEGAS

VETERINARY COMPOUNDING
WOUND MANAGEMENT& SCAR REDUCTION IN HORSES

Selena Boyd
BPharm BSci.Hons MPS

HOUSEKEEPING

Cell Phones

Download the Slides

Questions

No photography, audio, or video recordings

https://education.lp3network.com/WCC2018

DISCLAIMER

DISCLAIMER: The information contained in this program, which may include treatment modalities, diagnostic and therapeutic information, and instructions related to regulatory guidelines and current standards of practice for pharmacy compounding, is FOR EDUCATIONAL PURPOSES ONLY and should not be taken as a treatment regimen, product indication, suggested treatment modality, or suggested standard of practice. NOTE TO MEDICAL OR ALLIED HEALTH PROFESSIONAL: Any treatments, therapies, or standards of practice must be fully investigated and prescribed by a duly licensed medical practitioner in accordance with accepted professional standards and compendia. Any regulatory or practice standard must be fully investigated by a licensed pharmacist in accordance with accepted professional practice standards and compendia.

SELENA BOYD, BPharm, BSc, MPS

- An experienced community pharmacist and manager
- Pharmacy academic at Queensland University of Technology in Brisbane, Australia since 2008
- Research area is in veterinary compounding- horse wounds and scarring
- Past member of the Queensland Three Day Eventing squad

INTRODUCTION

Cost of this horse $27 500 AUD

Cost of treatment $10 000 AUD

Cost of Sylvie $30 000

Cost of racehorse $200 000 AUD

WARNING:

Some Images May Be Graphic

WCC 2018

BACKGROUND

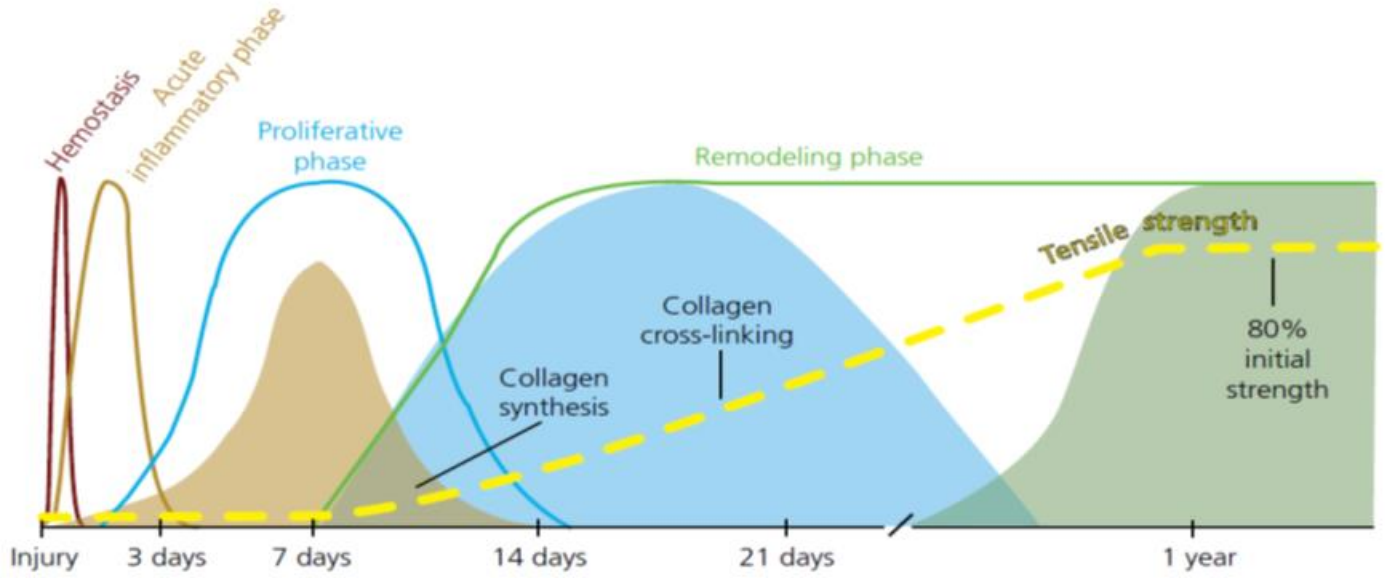
PROBLEMS WITH HEALING

- Distal limb wounds are problematic because 2nd intention repair is subjected to numerous complications

- Possible causes include:
  - predisposition for bacterial wound contamination
  - ↓ blood supply,
  - high motion due to highly mobile joints,
  - relative deficiency of soft tissue coverage

WOUND HEALING IN HORSES

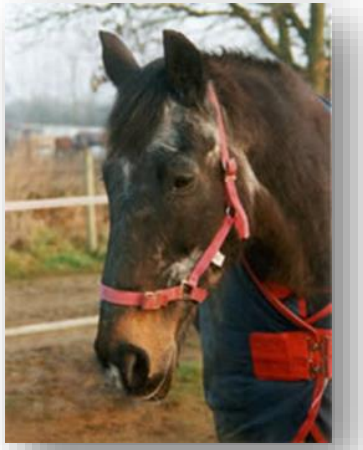
- Wound healing of a full-thickness cutaneous wound is comprised of four overlapping but well-defined phases:
  - Haemostasis
  - Acute inflammation
  - Proliferation
  - Remodelling



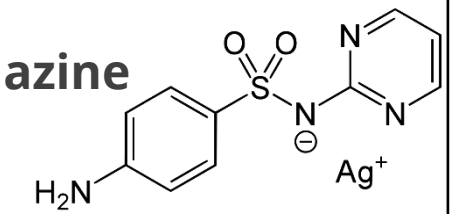
The order of the different phases of tissue repair. Reproduced with permission of Elsevier

FACTORS THAT NEGATIVELY IMPACT HEALING

Patient factors	Wound characteristics	Treatments
Age	Infection	NSAIDs
Malnourishment	Location	Corticosteroids
Concurrent illness	Impaired blood flow	
	Exuberant granulation tissue	
	Desiccation of tissue	



CURRENT TOPICAL TREATMENTS USED FOR WOUND HEALING

Treatment	Proposed mechanism	Advantages	Disadvantages
Silver sulfadiazine 	Broad-spectrum antibiotic & anti-fungal	Effective against *Pseudomonas aeruginosa*	Inconsistent results. May slow epithelialisation & ↓ wound contraction
Tea tree oil 	Antibacterial, Antifungal, ↑ fibroplasia	May be useful in inflammatory phase	Contact dermatitis in humans
Honey 	↓ inflammation, promotes granulation tissue formation & epithelialisation	Provides a mechanical barrier against infection & has antibacterial properties	Can dry out wound Potential for pathogen import Effectiveness varies depending on source

CURRENT TOPICAL TREATMENTS FOR SCARRING

Treatment	Proposed mechanism	Advantages	Disadvantages
Onion extract 	Anti-inflammatory, anti-proliferative and anti-oxidant.	↓ fibroblast proliferation & ECM remodelling Improved scar appearance	Moderate pruritus
Aloe vera 	↓ inflammatory cytokines Polysaccharides inhibit bacterial growth	Antibacterial, anti-inflammatory, antifungal, wound healing	↑ fibroblast growth & TGFβ expression
Vitamin E 	Anti-oxidant effect	Hydration and moisturisation No evidence of benefit as monotherapy.	Itching, contact dermatitis, rash.

NEW POTENTIAL TREATMENTS

CURCUMIN

- Has antineoplastic, antimicrobial, anti-inflammatory, antioxidant & wound healing activities
  - Found to primarily act in proliferative phase of wound healing by ↑ re-epithelialisation, collagen deposition, fibronectin production & myofibroblast contraction
  - Appears to regulate fibroblasts growth

- Curcumin's potential as a therapeutic agent is limited by low bioavailability, poor aqueous solubility, light sensitivity & rapid degradation
  - Topical application of encapsulated curcumin significantly ↑ wound healing when compared to control & free curcumin

NEW POTENTIAL TREATMENTS

SILICONE

- 1st line for both prevention & treatment of scars
  - May help to prevent excessive scar formation by restoring water barrier through occlusion & hydration of stratum corneum
- Has been shown to prevent the formation of EGT when compared to a control dressing
- Problems with gel sheets
  - Need for taping
  - Difficulties in using sheets in large areas or near joints
  - Must be washed to prevent infections & complications

TEST HORSE – 5YR OLD PERFORMANCE DRESSAGE HORSE

Day 1 of treatment

Day 5 of treatment

TREATMENT WITH 2% TUMERIC IN SILICONE BASE

Before

Initial injury after debridement surgery

After

Discharge day

THANKS FOR LISTENING
QUESTIONS?


2018
WORLD CONGRESS
OF COMPOUNDING
Global Partner. One Mission.