



# FlexAbility PLUS+

## ..joint supplement

*science*  
**SUPPLEMENTS**  
*The Equine Nutrition Specialists*

# FlexAbility PLUS+



# FlexAbility PLUS+

- Clinically tested high specification nutrient support for joints
- Largest and most comprehensive clinical trial of an equine joint supplement
- Conducted by Dr Rachel Murray of the Animal Health Trust in Newmarket
- 1.9kg = 5 weeks supply



# FlexAbility PLUS+

## Composition

- **Per 54g (500kg Horse Feeding Rate)**
  - **Glucosamine HCl 10g**
  - **Chondroitin Sulphate 4.1g** (*low molecular weight*)
  - **MSM 6.5g**
  - **Vitamin C 5.0g** (*as Ca ascorbyl monophosphate*)
  - **DHA 1.9g EPA 1.0g (Total Omega 3 = 2.9g)**
  - **Hyaluronic Acid (HA) 150mg**





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Original Research

## A Randomized Blinded Crossover Clinical Trial to Determine the Effect of an Oral Joint Supplement on Equine Limb Kinematics, Orthopedic, Physiotherapy, and Handler Evaluation Scores



Rachel C. Murray<sup>a,\*</sup>, Vicki A. Walker<sup>a</sup>, Carlyne A. Tranquille<sup>a</sup>, Jo Spear<sup>a</sup>, Vicki Adams<sup>b</sup>

<sup>a</sup> Centre for Equine Studies, Animal Health Trust, Suffolk, UK

<sup>b</sup> Vet Epi, White Cottage, Norfolk, UK

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### ABSTRACT

Despite the range of oral joint supplements available, there has been very limited research into their efficacy. The study aimed to determine the effect of an oral joint supplement on limb kinematics, orthopedic, physiotherapy, and handler evaluation in horses. Supplement S or placebo P was fed to 24 horses for 21 days each in a random order. Horses were evaluated at days 0 (baseline), 21 (after first treatment), and 42 (after second treatment). Assessments included the following: clinical orthopedic evaluation for straight line/lunging circle in walk and trot; high-speed motion capture determined hindlimb kinematics for straight-line trotting; grading of limb range of motion (ROM) and muscle tone based on standardized physiotherapy criteria; handler grading of specific criteria during pasture, groundwork, and ridden exercise. Effect of treatment, sequence, limb, and interactions were investigated using linear-mixed models. S was associated with significantly lower lameness grade in a straight line ( $P = .001$ ) and circle ( $P = .010$ ), with individual horses improving up to 2/10 grades over P/baseline. S was associated with significantly improved ROM and muscle tone. Ridden/groundwork scores were significantly higher with S compared to P/baseline. With S, horses were graded significantly higher for “ease of movement” at pasture compared with P/baseline. For horses with hindlimb lameness, S was associated with significantly greater tarsal flexion than baseline (4.2% greater,  $P < .020$ ) or P (2.7% greater,  $P < .037$ ). S was associated with less lameness and improved physiotherapy scores, ridden/groundwork scores, and pasture “ease of movement.” Increased midstance tarsal flexion of lame limbs may indicate improved mobility/comfort during peak loading, supporting a positive effect of S.

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# Materials and Methods

- **24 mature horses**
  - Ridden, groundwork and pasture exercise groups
  - Excluded
    - poor body condition
    - health problems
    - greater than 2/5 lameness



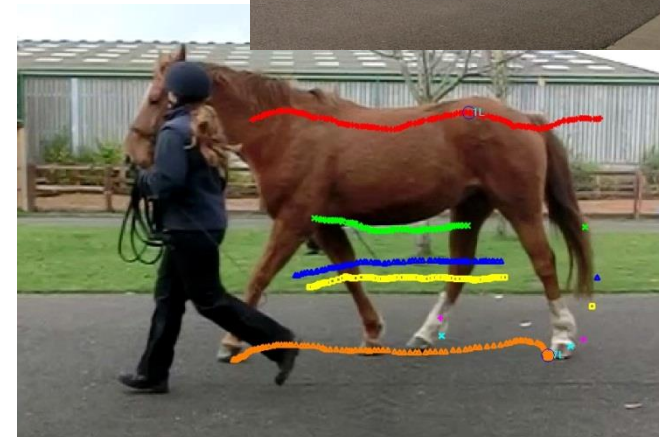
- **Supplement S**
  - FlexAbility Plus, Science supplements
- **Placebo P**
  - Rice flour carrier + flavours only
- **21 days each**
- **Triple-blind crossover design**
- **Random order**



# Blinded evaluation

Day 0, day 21, day 42

- Orthopaedic evaluation
  - Straight line (0-10)
  - Circle
  - Flexion tests (0-3)
  - Ridden
  - HS motion analysis





# Blinded evaluation

Day 0, day 21, day 42

- **Physiotherapy**
  - Range of motion



- **Muscle tone**



# Blinded evaluation

## Handler evaluation

– Field



– Groundwork



– Ridden



Consistent handler assigned per horse

# Results: orthopaedic evaluation

## Supplement S vs Placebo and baseline

- **Lower lameness scores walk + trot**
  - Straight line  $p < 0.001$
  - Circle  $p = 0.007/0.01$
- **Improved gait features**
  - Pelvic displacement  $p = 0.04$
  - Toe drag  $p = 0.04$
  - Circumduction  $p = 0.001$
- **Flexion tests**
  - Improved response  $p = 0.008$



# Results: Physiotherapy evaluation

- **Significant effect of treatment**
  - S>P
- **Significant effect of time**
  - S and P → ROM + muscle tone > baseline

## ROM

- Forelimb protraction
- Fetlock extension
- Hindlimb flexion

## Tone

- Brachiocephalicus
- Long + Lat dorsi
- Gluteus med + sup
- Triceps

# Results: Handler evaluation

- **Ridden scores**  $p=0.0003-0.04$ 
  - **Supp S > P** **Supp S > baseline**
- **Groundwork scores**  $p=0.003-0.04$ 
  - **Supp S > P** **Supp S > baseline**
- **Field scores**  $p=0.004$ 
  - ‘Ease-of-movement’**
  - Supp S > P** **Supp S > baseline**



# FlexAbility PLUS+

- Suitable for horses with existing stiffness or for feeding to support joints before problems develop
- No long loading period
- Improvement should be seen in 7-10 days on the loading dose

