

Providing Advanced Care for an Aging Lesser Kudu through Relationship Building and an Operant Conditioning Program

Matthew Ardaiole & Jordan Baur



An Introduction to Fred

Our lesser kudu



- Medical history
 - Poor hoof conformation
 - Damaged horns
- Historical training at CMZ
 - Very flighty
 - Need for shifting
 - Hoof work

Institutions

- April 14, 2003
 - Born at St. Louis
- 2004
 - Transferred to Cheyenne Mt.
- 2009
 - Transferred to Denver



Fred's Arrival

Denver Zoo (2009)



- Stud to breeding herd (1.4)
 - 9 offspring
- Calm demeanor
- Apparent arthritis
 - Diagnosed 2011



Typical Behavior & Training



- Animal-Human Relationships
 - Free contact
 - Tactile
 - Approaches keepers
 - Very food motivated
- Training
 - Targeting
 - Shifting
 - Hoofwork



Medical Issues

Hooves



- Quick growth
- Poor conformation
 - Training for front hooves
- Abscesses

Immobilizations

- Back hooves
- Intensive hoof work
 - Trimming
 - Shaping



Medical Issues

Hooves



Medical Issues

Hooves



Medical Issues

Horn Amputation



- Constant rubbing
 - Infection
 - Right horn necrosis
 - Amputation
- Post-op
 - Wrapped
 - Ceased rubbing

Infection Treatment

- Isolation
- Topical treatments
- Oral treatments
- Wrapping
- Epoxy



Medical Issues

Horn Amputation

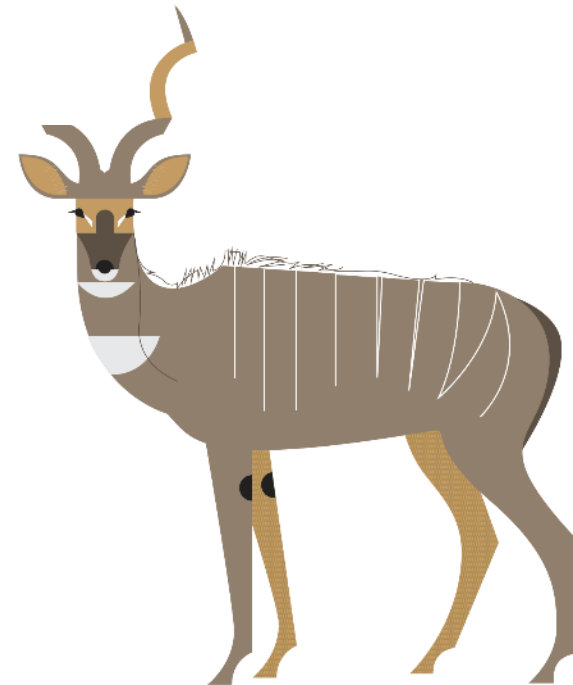


Medical Issues



Osteoarthritis

- Early onset
- Medicinal treatments
 - Phenylbutazone, Banamine, Cosequin, Tramadol, Meloxicam, Amantidine
- Physical therapy
 - Winter 2014
- Acupuncture
 - Spring 2016



Physical Therapy

Dr. Tammy Wolfe - 2014



History

- Domestics
- Komodo dragon
- Birds
- Small mammals
- Marine mammals
- Ungulates

Physical Therapy

Wolfe Kinetic Technique



“The WKT is a very gentle manual technique that is performed with the intent of changing movement patterns in a way that spreads out the work load of the body when the patient performs functional activities. The WKT operates under the premise that the performance of the spine and core dictates the movement patterns of the extremities, and that the spine and core must move normally in order for the extremities to move normally. Because of that premise, the majority of the manual therapy is focused initially on the spine, ribs and pelvis and then connected to extremity movement.”

Physical Therapy

Wolfe Kinetic Technique



Physical Therapy

Massage



- Treatment schedule
- Keeper training
 - Hip and back massage
 - Modifying overtime
 - Neck massage
- Encouraging movement



Physical Therapy

Daily Massage



Acupuncture

Dr. Bonnie Wright - 2016



History

- Domestic
- Penguins
- Przewalski Horse
- Lion
- Camel
- Giraffe

Acupuncture

Dr. Bonnie Wright - 2016



- Sessions
 - Needles
 - Electrode
 - Complements massage
 - Reaction
- Neck stretches



Acupuncture

Dr. Bonnie Wright - 2016



Other Treatments



- Fetlock trauma
- Thorax abscess
- Carpus trauma
- Eye ulceration



Quality of Life Monitoring

Parameters



Fred Wellness Tracker- Pain Assessment

Updated March 2017

Directions: Record the number that corresponds to the most accurate description.

If showing multiple criteria, err on the side of caution and record the lowest score.

Getting Up: (Doesn't have to show all the listed criteria for corresponding score, can show one or the other or all criteria)

- 4- Able to get up immediately
- 3- Some Struggling / Rocking to get up
- 2- Struggling / Repositioning to get up/unsuccessful on first attempt to get up
- 1- Takes multiple attempts to get up/ Can't get up

Movement: (Doesn't have to show all the listed criteria for corresponding score, can show one or the other or all criteria)

****Head bobbing is normal as long as head is held high****

- 4- Moves smoothly and fluidly, moving/standing at full posture, with normal head bobbing
- 3- Mild/moderate stiffness, slight limping or slightly low head bobbing
- 2- Severe stiffness, limping or pronounced low head bobbing
- 1- Very little movement

Stance:

- 4- All four feet planted
- 3- Toe touching
- 2- Holding up one leg
- 1- Shifting weight, trying to hold up multiple legs

Behavior during massage:

- 4- Not appearing stiff, Staying for session, little coaxing needed, keeps back feet planted during neck exercises and can do full stretch (nose to hip)
- 3- Slight twitching, may leave session but easy to get back, some coaxing needed, slight movement of back feet during neck exercises but can do full stretch
- 2- twitching, arching back or dipping rear during massage, leaves session and difficult to get back or not at all, coaxing needed, moves back feet during neck exercises and cannot do full stretch
- 1- even with coaxing, unwilling to participate, may walk away after very little or no contact from keeper, unwilling to stretch for neck exercises

Notes: Explain, or add additional info

Monitor fecals, if possible

Monthly weight

Monitor rear movement when feet are planted

Fred QOL Parameters

Updated March 2017

Weight	1	Animal is within X-XX% of target weight. (80-90kg)
	0.5	
	0	Animal is slightly over/under target weight (XX-XX%). (75.0-79.9 or 90.1-94.9)
	-0.5	
	-1	Animal is XX% or more over/under target weight or target weight has not been set (<74.9 or >95)
Food consumption	1	Animal consistently consuming most or entire diet; no manipulation of food items necessary; Readily responds to diet being offered
	0.5	
	0	Animal consistently consuming majority of diet; some manipulation of food items may be required
	-0.5	
	-1	Inappetence or animal only eating treats or specialty items; or nutritional intake is not being monitored or is unknown
Mobility	1	No mobility issues; normal gait/locomotion
	0.5	
	0	Some occasional or minor mobility issues; animal is able to carry out all major life functions
	-0.5	
	-1	Unable to locomote or able to locomote only with significant effort
Health status	1	No known medical condition or significant pathology (disease/injury-free); no treatment required
	0.5	
	0	Medical condition that is being successfully managed or controlled;
	-0.5	
	-1	Significant medical condition affecting one or more critical life functions; additional treatment options may or may not be available OR animal is not compliant with treatment; animal may have serious but undiagnosed illness
Pain assessment	1	No discernable physical or behavioral indicators of pain present WT Score: 13.5 - 16
	0.5	WT Score: 11 - 13.48
	0	Physical or behavioral indicators of pain present; chronic or intermittent pain satisfactorily managed with medication and/or treatment

Quality of Life Monitoring

Tracking

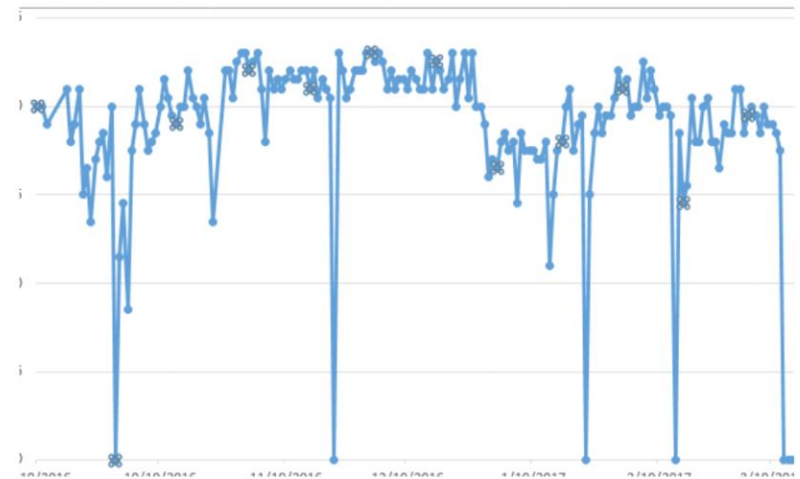


	2017			3/16/2017			Date: 3/17/17			Date: 3/18/17			Date: 3/19/17			Date:			Date:		
	Weight (%)	Weighted Score	Rating	Weight (%)	Weighted Score	Rating	Weight (%)	Weighted Score	Rating	Weight (%)	Weighted Score	Rating	Weight (%)	Weighted Score	Rating	Weight (%)	Weighted Score	Rating	Weight (%)	Weighted Score	Rating
Weight	10	0	0	10	0	0	10	0	0	10	0	0	10	0	0	10	0	0	10	0	0
Food consumption	5	5	1	5	5	0.5	5	2.5	0.5	5	2.5	1	5	5	0	5	0	0	5	0	0
Mobility	15	7.5	0.5	15	7.5	0	15	0	-0.5	15	-7.5	-0.5	15	-7.5	0	15	0	0	15	0	0
Health status	20	0	0	20	0	0	20	0	-0.5	20	-10	-0.5	20	-10	0	20	0	0	20	0	0
Pain assessment	25	25	1	25	25	0.5	25	12.5	0	25	0	0	25	0	0	25	0	0	25	0	0
Activity level	5	5	1	5	5	0.5	5	2.5	0	5	0	-0.5	5	-2.5	0	5	0	0	5	0	0
Mentation/cognition	5	5	1	5	5	1	5	5	0.5	5	2.5	1	5	5	0	5	0	0	5	0	0
Caretaker-animal	15	15	1	15	15	1	15	15	0	15	0	0	15	0	0	15	0	0	15	0	0
Daily Total Score	100	62.5		100	62.5		100	37.5		100	-12.5		100	-10		100	0		100	0	
Reporter	JB			KK			MA			MA/RP			MA/JB/RP								

Percentages must add up to 100

Weight
100 target
1 80-90%
0 75.0-79.9 or 90.1-94.9
-1 <74.9 or >95
Pain Assessment (Based on Wellness Tracker Score)
1 13.5 - 16
0.5 11 - 13.48
0 8.5 - 10.8
-0.5 6 - 8.48

fred wellness graph



An Ambassador

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- Demonstrations
- Geriatric care
- News coverage

- Species
- Ungulates
- Collection
- Behavioral husbandry
- Denver Zoo staff



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Any Questions?

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