



# Equine BodyWorks USA

Revealing Affliction. Reducing Discomfort. Improving Movement & Performance.™

## Thermal Imaging Report Lifeboat (LB)



*Thermal Imaging completed by  
a Certified Thermographer  
Authorized with the EquineIR™  
Network.*



*Interpretative results  
completed by Licensed  
Veterinarians in contract with  
Integrated Equine Infrared.*



**Equine BodyWorks Infrared Thermal Imaging Services**

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FX: 262-241-2401



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EMAIL: [becky@equinebodyworksusa.com](mailto:becky@equinebodyworksusa.com)

**PATIENT:** Lifeboat

**THERMOGRAPHY DATE:** 09 - 16 - 2013

**IMAGING TIME:** 8:30 AM

September 16, 2013

Wisconsin Equine Clinic & Hospital  
39151 Delafield Road  
Oconomowoc WI 53066

Dear Veterinarians of Wisconsin Equine Clinic & Hospital:

Equine BodyWorks Infrared Thermal Imaging Services recently performed a full body thermal imaging scan of: **Lifeboat**.

The following photo report was completed by an EquineIR™ Certified Thermographer. All interpretative results were channeled through interpretir.com and subsequently formulated and input by a licensed veterinary team member with Integrated Equine Infrared.

The interpretation is intended to aid your state-licensed veterinarian in providing a diagnostic or treatment protocol. All follow-up testing and treatments should be conducted and administered by your primary veterinarian. The interpretation provided is based solely on the conditions at the time of survey and the thermal images included in this report. Thermography is a diagnostic tool that measures heat emitted from the surface of the patient. The thermal imaging camera converts infrared energy into a visible image. Emitted heat is related to circulation; as such, the thermal camera can help detect areas of inflammation as well as decreased circulation. Thermal symmetry is key, so you compare one anatomic area with the same area on the other side. The EquineIR™ report is prepared in this manner. It should be understood that correct patient preparation and environment are vital to a successful survey. Your EquineIR™ technician is also a Certified Infrared Thermographer and has been trained in the proper use and the proven techniques of thermal imaging as it is used with horses. There are, however, certain situations which may reduce the quality of the survey including the improper preparation of the horse prior to the technician's arrival. The interpreting veterinarians who review the imagery base their findings and recommendations on information provided, so it is critical that proper care be taken in the preparation process to ensure success.

Thermal imaging is a physiologic modality and should not be relied upon as the sole diagnostic tool. A complete clinical examination by your state-licensed veterinarian is always recommended for the best diagnosis and follow-up treatment. This Report is not a definitive diagnosis of any illness or disease. It is intended for use only by licensed veterinary professionals to evaluate patient health, diagnose medical conditions, and provide treatment. It is not to be used by individuals for self-diagnosis or self-evaluation, nor for the diagnosis or evaluation of other non-qualified personnel. This report does not replace, nor is intended to replace a complete clinical evaluation by your state-licensed veterinarian. Under no circumstances will EquineIR™, Integrated Equine Infrared or its affiliates be held responsible for illness, injury, or death to the patient as a result of the information contained herein. This report does not replace, nor is it intended to replace a complete clinical evaluation.

Your EquineIR™ Technician looks forward to working with you in the future. If you would like to set up an ongoing maintenance imaging program for your horse(s), we can arrange this at discounted rates along with multiple horse discounts. Please call our office with any questions as we would love to assist you in your success.

Sincerely,

*Rebecca Tenges*

*Certified Equine Thermographer  
Certified Infrared Thermographer  
Masterson Method Certified Practitioner & Instructor  
Certified Saddlefit4 Life® Equine Ergonomist*

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## EQUINE CLIENT INFORMATION

**CLIENT NAME:** Wisconsin Equine Clinic & Hospital  
**MAILING ADDRESS:** 39151 Delafield Road, Oconomowoc WI 53066  
**CLIENT EMAIL:** office@wiequine.com  
**CLIENT PHONE:** 262-569-1550

**HORSE AGE:** 22+  
**HORSE BREED:** Thoroughbred  
**HORSE PRIMARY USE:** Used by WECH as a Jump Mare

## SURVEY INFORMATION

**THERMOGRAPHER:** Rebecca S. Tenges  
**INFRARED CAMERA MODEL:** FLIR T420 **CAMERA SERIAL NUMBER:** 62102950  
**NUMBER OF THERMAL IMAGES SUBMITTED:** 30

**WEATHER:** Sunny, Calm  
**APPROXIMATE TEMPERATURE:** 72 in Exam Room.  
**IMAGING LOCATION:** Clinic Exam Room

**EXERCISED PRIOR:** Yes **HOW LONG:** Approx 15 Mins **WHEN:** Approximately 20 minutes prior to imaging  
**TYPE OF EXERCISE:** Longed at trot

**BOOTS OR WRAPS ON HORSE?** No **HOURS SINCE:** Not Applicable

**FLYSpray OR LINIMENTS APPLIED WITHIN 24 HOURS:** No

**REASON FOR SCAN or HISTORY RECEIVED:** There is no specific issue for which this horse is being imaged. Lifeboat has simply been imaged as an 'example' horse in order to provide WECH's team of veterinarians with information about and a demonstration of equine infrared thermal imaging, as well as to provide them with a sample of the type of veterinary interpretation report received with a Full Body Thermal Imaging Scan.

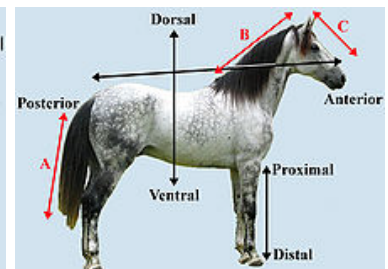
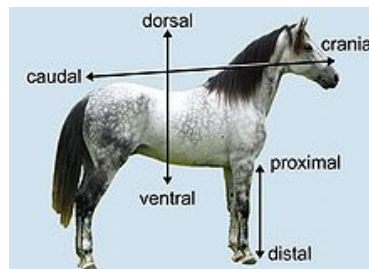
## INTERPRETATION INFORMATION (Completed by Veterinarian)

**INTERPRETATION TYPE:** Full Enhanced Survey

**DATE OF INTERPRETATION:** 9/16/2013

**REVIEWING VETERINARIAN:** Joanna Robson, DVM, CIT

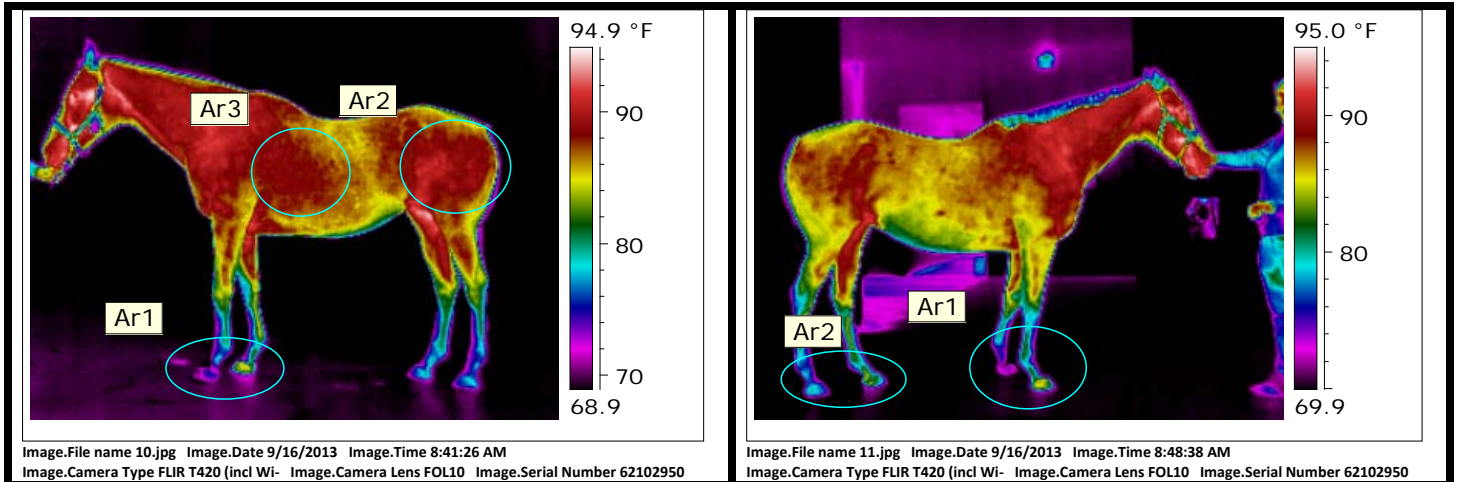
**\*\* 24 Hour Turn\*\***



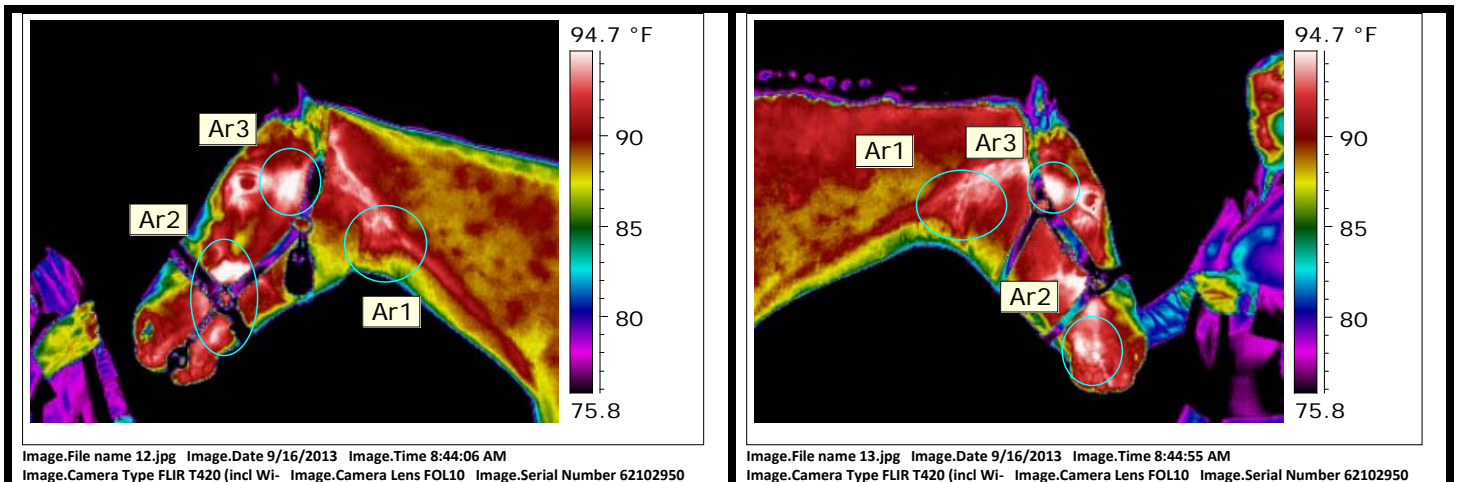
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Whole horse lateral views show discrepancies in the hooves and distal limbs. The distal limbs appear cool, likely related to the shorter exercise time in cooler weather prior to imaging; regardless, pattern abnormalities are readily discernible. There is a general increase in patterning across the left side, especially the ribcage and the lateral hindquarter, sometimes seen with artifact, but which could suggest increased muscle use/diffuse low-grade inflammation. Palpation would be useful.



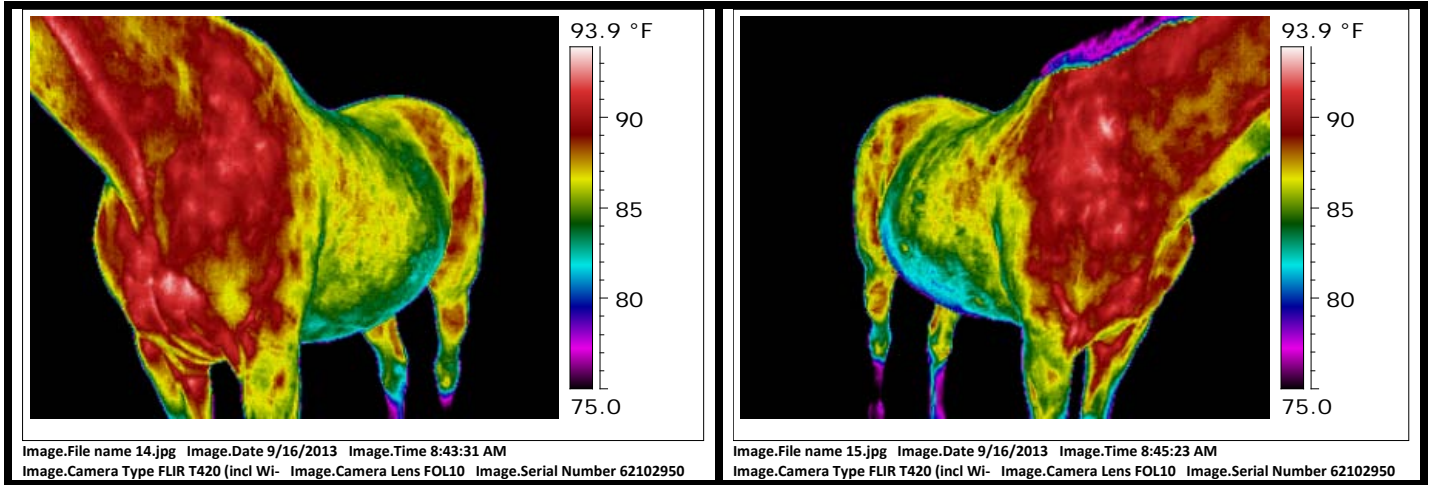
The head and face are symmetrical here, though showing increased heat at the TMJs and mouth than may simply be related to halter pressure or if the patient was lunged in a bridle, however, gross assessment of the marked areas is suggested; the throatlatch is also increased and palpation of the Inn's, salivary glands, and thyroid assessment may be useful, with an oral exam/dental evaluation if not done recently.



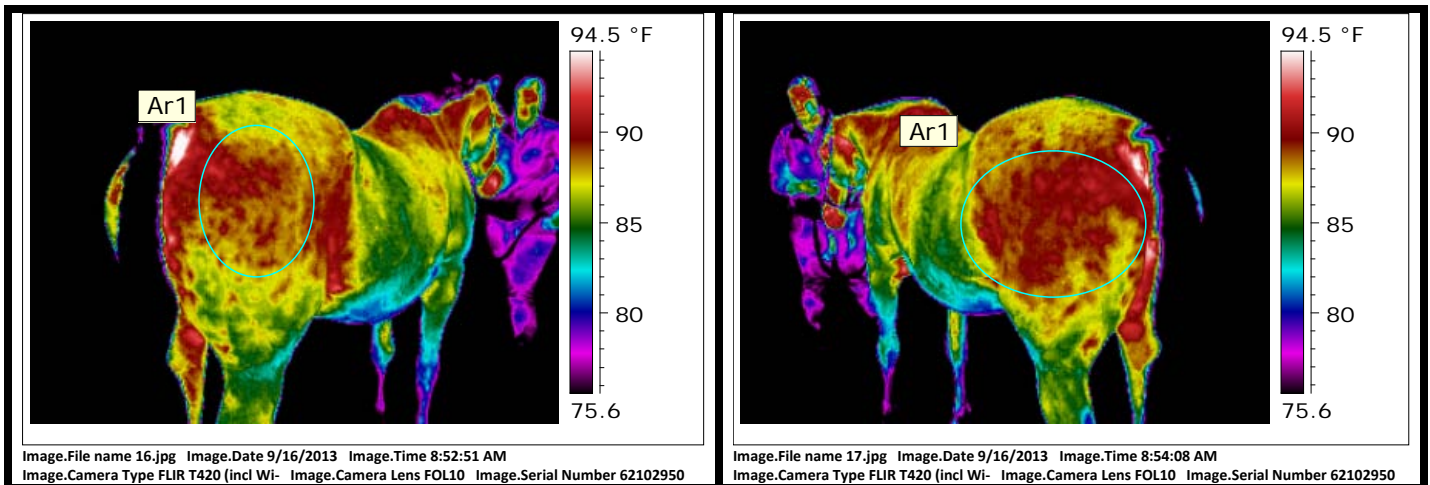
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**Shoulder and pre-scapular heat is typical and generally symmetrical; early evidence of tarsitis is noted in these views.**

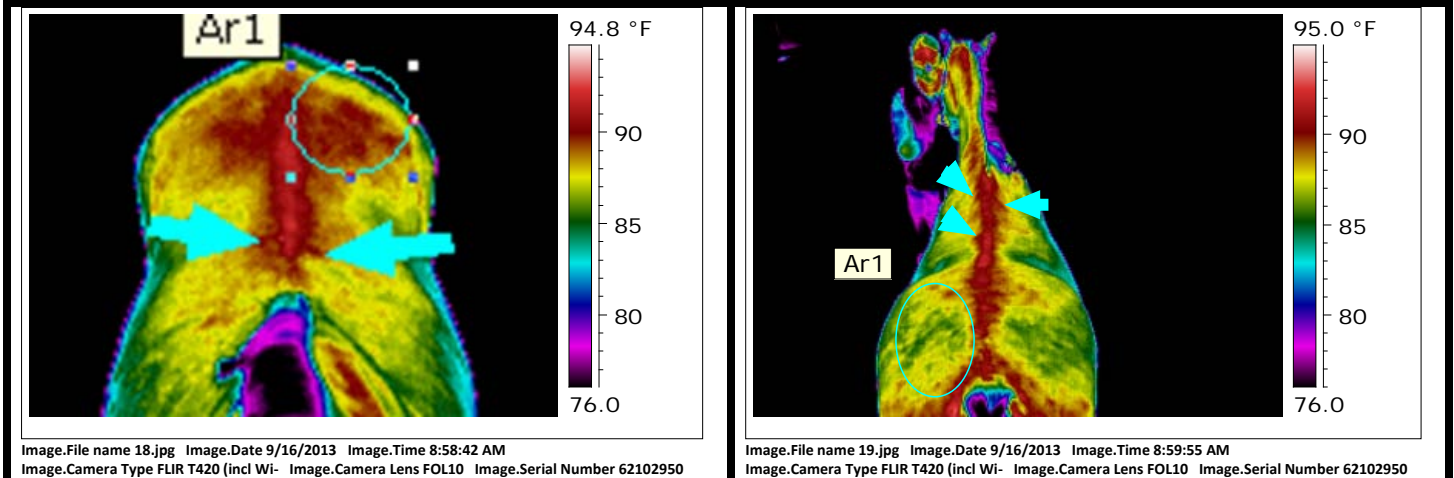


**Increased heat (as previously noted) at the left haunches, and the right biceps; palpation is warranted.**

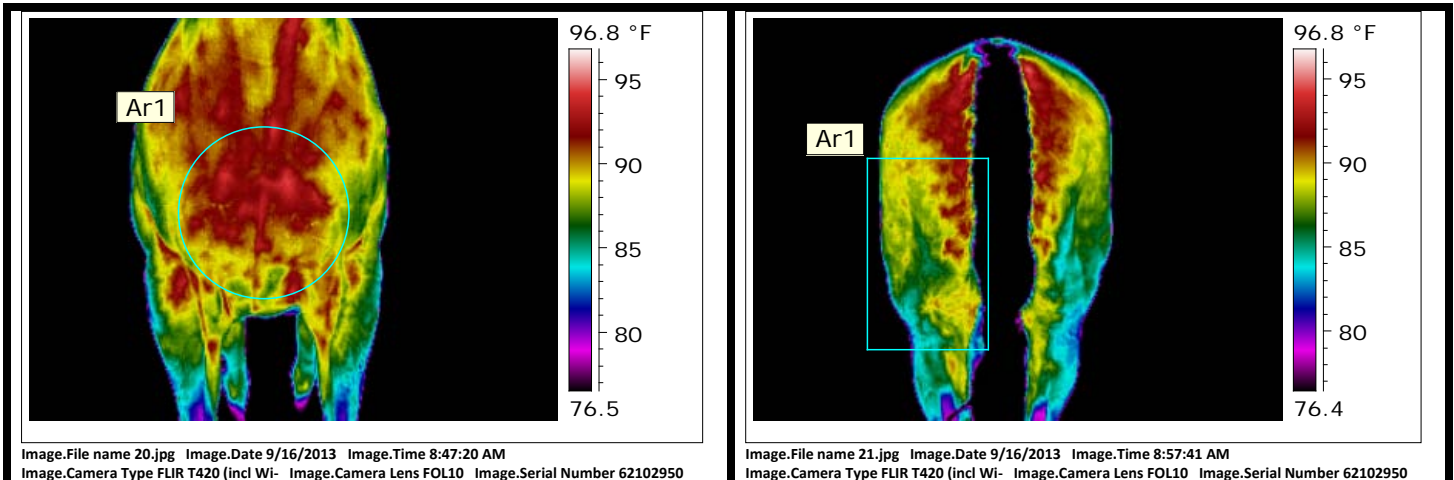
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Heat in the dorsal midline is typical due to the close interface of the skin with the dorsal spinous processes; however, arrows denote regions suspicious for kissing spine (perpendicular streaks) and palpation with radiographs would be warranted; there remains an asymmetry in the croup with the left gluteals again appearing warmer, suggesting imbalanced use (mare is compensating) or primary muscle strain.

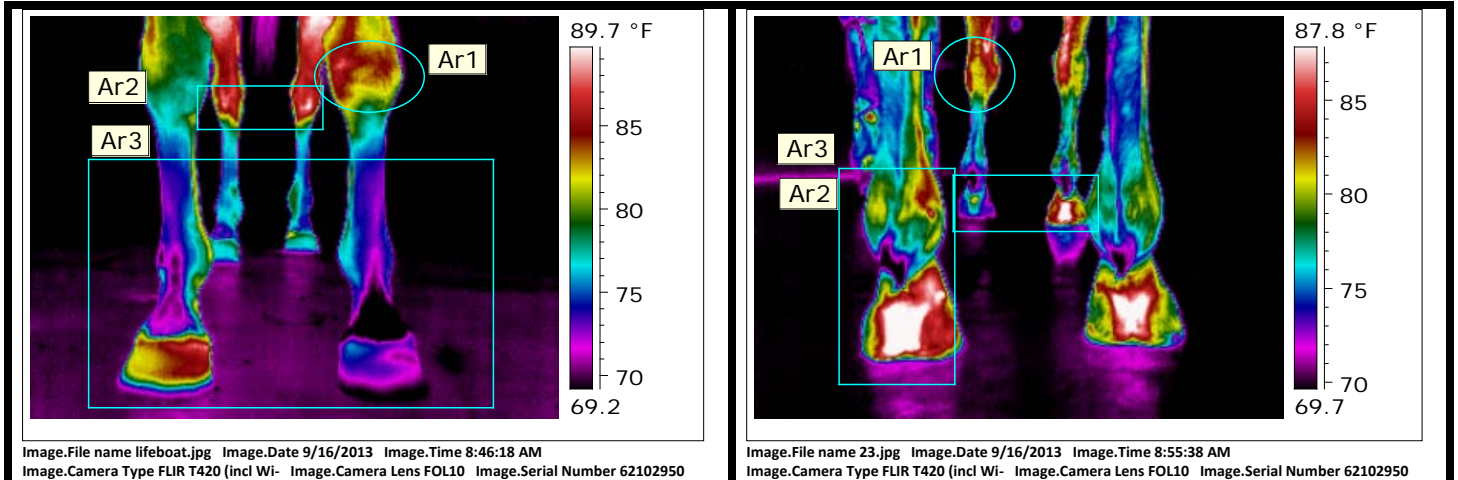


While not overtly asymmetrical at the pectorals, increased central heat may be seen with tight muscles in primary strain, or often seen in off-loading for pain in the hooves; left hamstrings and biceps increased compared to right, slightly unsquare in positioning.

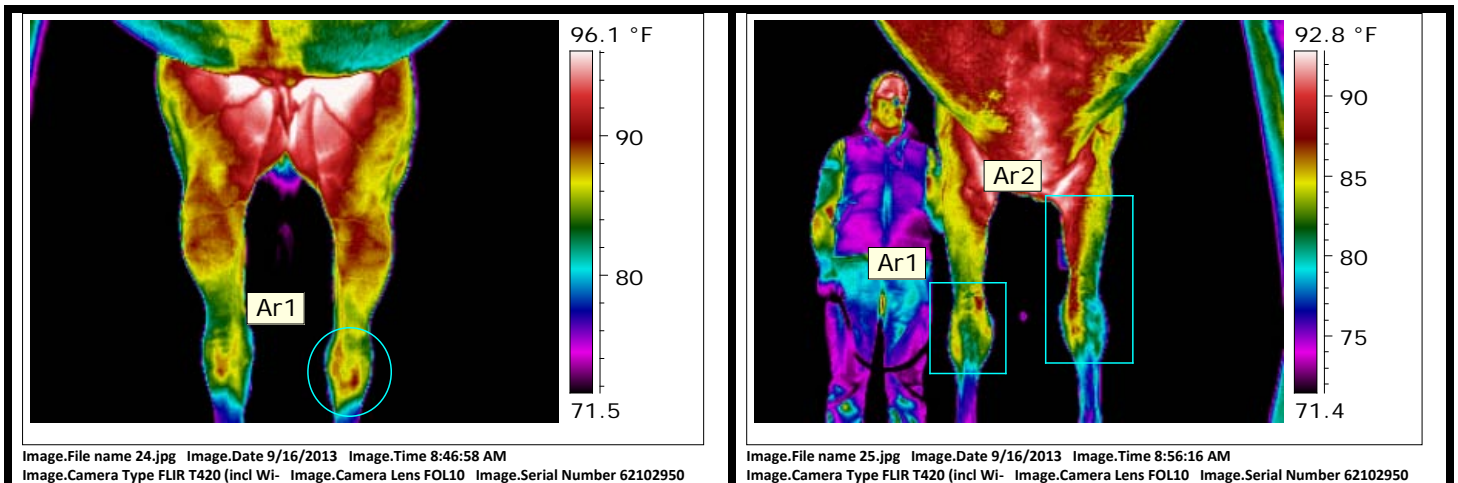
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Excellent views showing significant patterning abnormalities in the distal limbs. There is evidence of primary inflammation in the left carpus and RF foot, as well as evidence of bilateral tarsitis. The LH is warmer into the hoof and medial fetlock (usually seen with hoof infection or inflammation), as well as the LF and RF asymmetries are confirmed with increased heat at the LF carpus and RF foot. Off-loading is also suspected and affecting patterns seen. The LF patterning also suggests a circulatory disruption (chronic) and not unusual with club-footed horses, or dermatome problems which could be related to facet changes in the patient's neck.

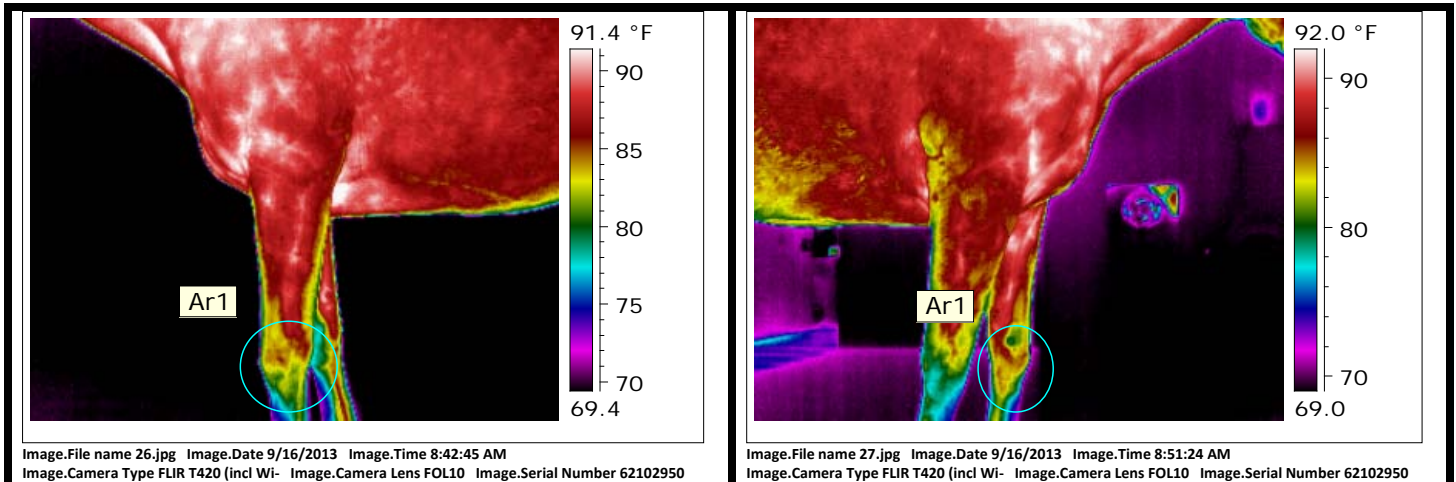


Patient is slightly off-square in both views, but patterning suggests tarsitis bilaterally, especially LH; the LF carpus is affected, with the RF showing increased circulation at the medial aspect, also seen in the RF foot – so primary inflammation, or increased loading is suspected.

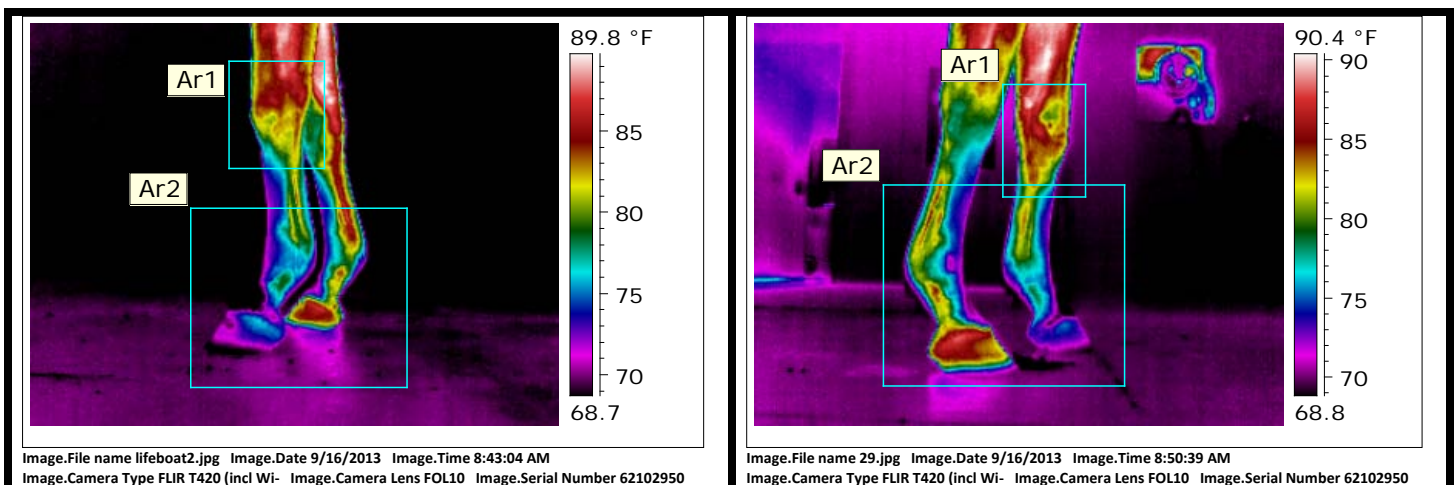
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**Patient stands slightly over at the LF knee or is otherwise structurally affected, with patterning suggesting primary carpal inflammation as seen with arthritis/DJD or soft-tissue injury.**



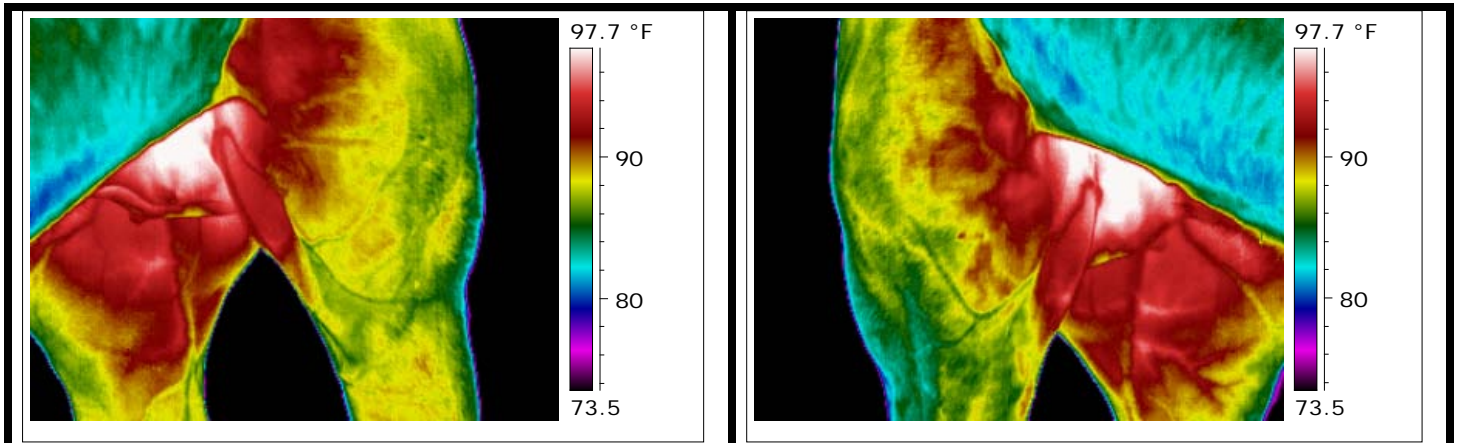
**Lateral views confirm previous findings; the LF carpus is showing increased patterning consistent with primary inflammation (carpal arthritis) and distal circulatory disruption (decreased use, club foot, chronic changes, dermatomal patterning) while the RF shows primary inflammation often seen with infection (thrush, abscess, wall separation, bruising, thin soles) and possible osseous changes such as low ringbone or sidebone formation.**



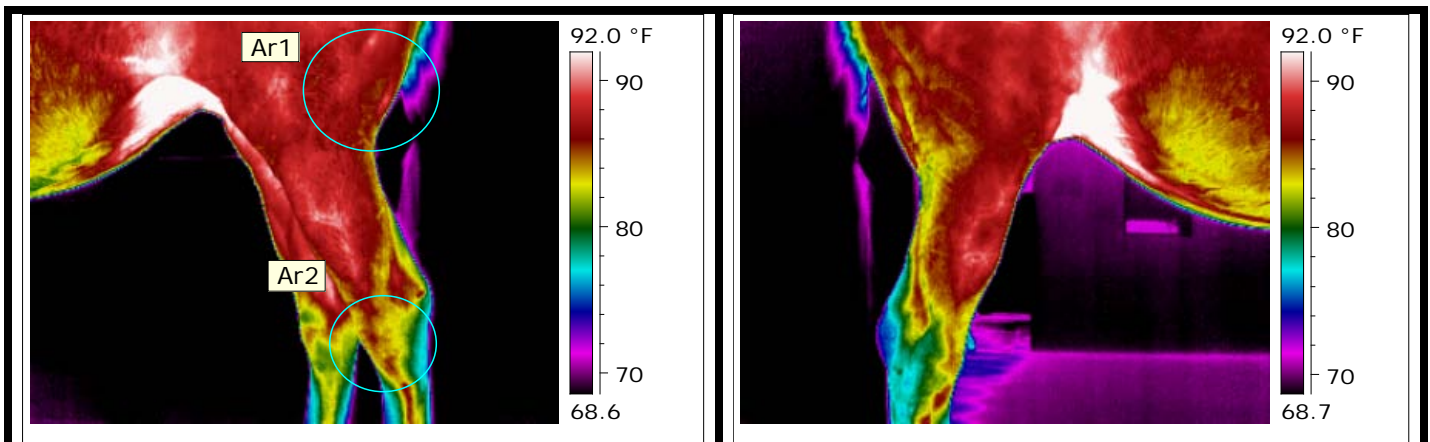
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**Mild diffuse increased patterning in the stifle/quads region musculature bilaterally, likely compensatory, could palpate for pain or reactivity.**

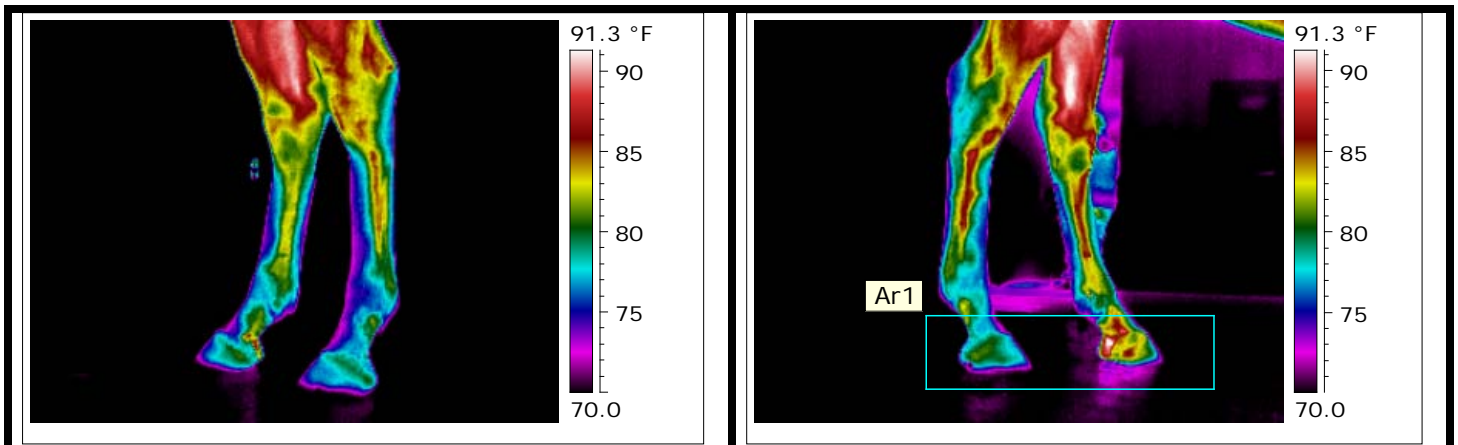


**Symmetrical at lateral gaskins; suspicious for tarsitis, left muscles again increased compared to right.**

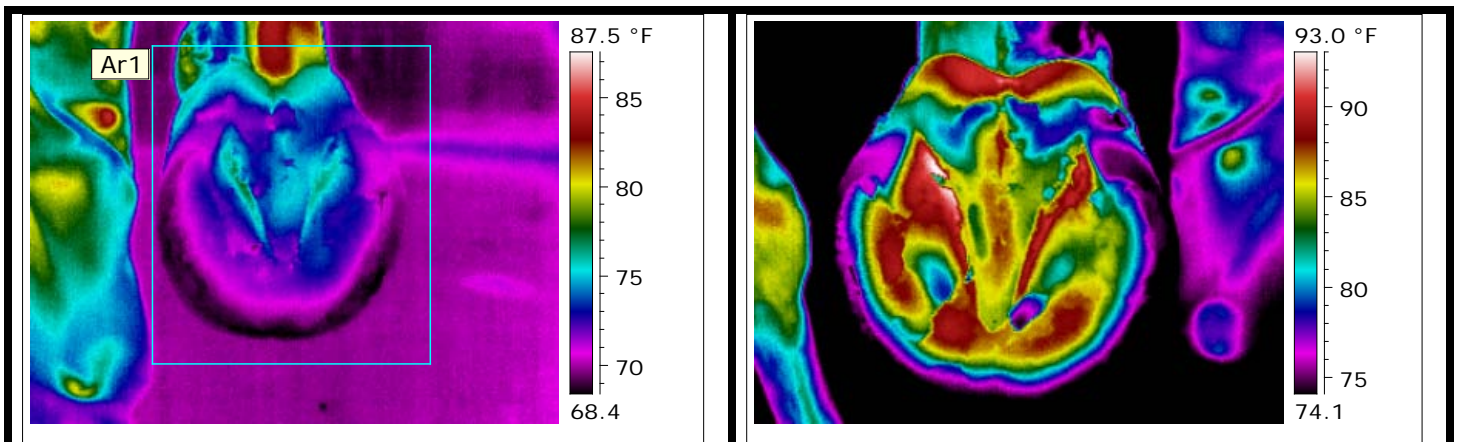
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As above, with further asymmetry noted in the hooves suggesting primary inflammation (bruising, thrush, etc) or loading at the LH and mild RH increase seen as streaking at the lateral wall.

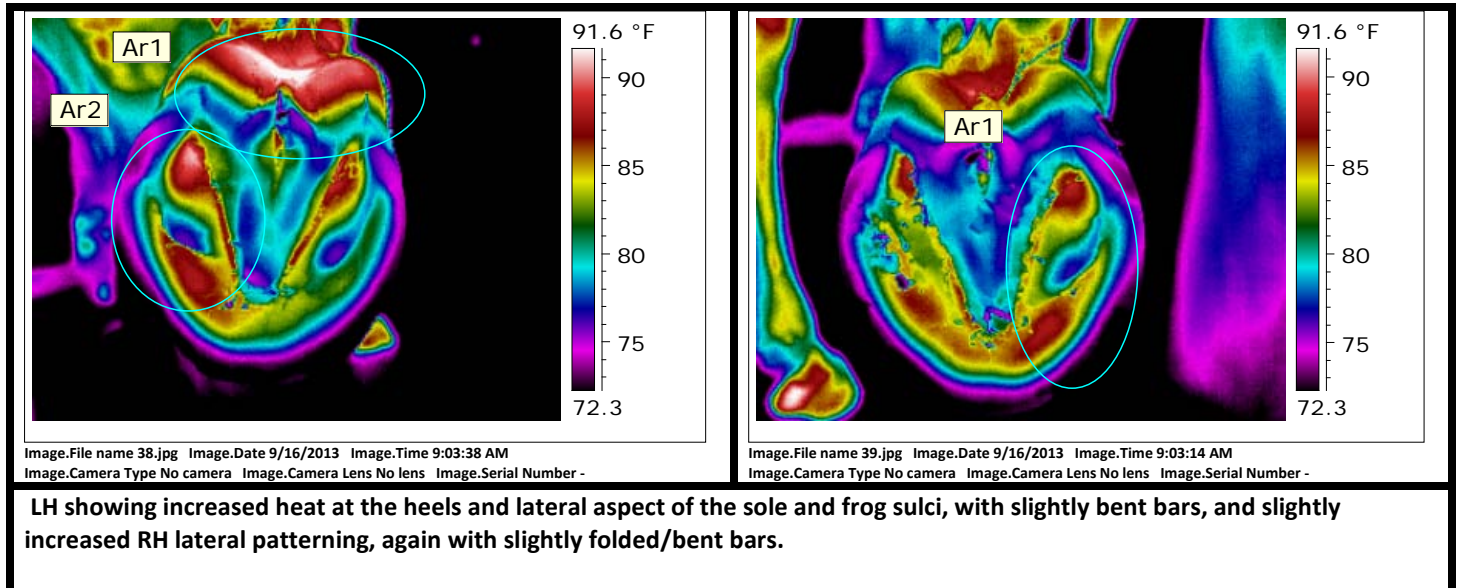


Images are spanned the same but with tuning altered to show the major discrepancy between the two front hooves, as noted in other views. The LF is repeatedly cool, while the RF shows a significant increase; RF patterning is consistent with thrush or other infection, and thin sole or bruising. Gross inspection and local treatment are warranted, with radiographs if needed to assess sole depth, wall thickness and boney column alignment bilaterally. Given the changes in the LF, RF is at risk for loading stress, and there does appear to be a subtle high-low imbalance with the LF slightly clubby.

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**SUMMARY AND RECOMMENDATIONS:**

Lifeboat is a nice looking TB mare who probably has an interesting life history. We understand this is a demonstration scan for the clinic, so a complete patient history was not provided, however there is mention of a chronic (5-year) history of lameness. This is a well-done report with excellent images, and while there is a slight cool patterning across the limbs (this may be related to shorter exercise time in cooler weather as opposed to breeze artifact given the exam room environment) the patterns are readily seen.

There are significant discrepancies in the limbs representing both primary inflammation and likely compensatory loading changes; this patterning can make interpretation of the patient difficult (chicken and egg) which is why full histories are important when possible when doing client scans. However, the the LF stands slightly forward as if over-in-the-knee or structurally affected at the carpus and the patterning suggests primary inflammation such as seen with carpal arthritis and bone spurring or chronic soft-tissue injury. Radiographs and/or ultrasound would be warranted. There is cooling in the distal aspect of the LF and foot that may be seen with circulatory disruption created by decreased use, club foot, or cervical problems and related dermatome affectation. Palpation, flexion, and radiographs of the carpus are suggested, with palpation of the neck and assessment of range of motion, with radiographs if dictated. Bodywork, acupuncture, electro-stim, local injection, anti-inflammatories, etc. may be recommended. The RF shows primary inflammation throughout the limb at the hoof and through the medial limb; a portion of this change is likely related to patient offloading from LF to RF, though also suggests primary infection or inflammation at the foot as seen with thrush, abscess, thin

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sole, etc. Low ringbone or side-bone may create the subtle diffuse patterning seen at the coronary band.

In the hinds, the LH is consistently warmer than RH and also suggests a degree of compensation; however, the significant heat seen in the foot would also suggest primary inflammation (thrush, bruising, ringbone, etc.). Gross inspection and further diagnostics may be warranted. Patterning also suggests ongoing tarsitis especially at the LH, and palpation, flexions, and baseline radiographs would be useful to assess for osseous changes, though IR patterning will alter prior to boney change.

Patterning in the back would be typical of kissing spine (at the arrowheads), and palpation with radiographs would be useful (and recommended if this were a patient under saddle with performance problems). Due to her age and lack of use she has dropped in her belly and topline, and could benefit from some core strengthening such as belly lifts and hip tucks for general strength and wellness if she is not able to exercise under saddle or correctly engaged on the lunge, which would also help to open up her spine.

Patterning at the face and head is symmetrical though increased, and while symmetry might dictate these changes are not pathologic, experience would suggest there are abnormalities, especially at the throatlatch region and palpation of the TMJs would also be useful; additionally, dental evaluation should be done if not checked within 6-9 months.

In making recommendations to the vet/client, we would suggest palpation/flexion of the LF carpus with radiographs to rule out osseous changes, palpation and ROM of the neck, gross inspection and hoof testers of all 4 hooves for infection or reactivity along with trimming/balancing and local treatment as needed (baselines are always useful for sole depth, wall thickness, column alignment and to rule out boney changes); flexions of the hocks, and palpation of the back, with anatomic imaging where dictated. It's a long list, but typical of an older patient with a chronic history and significant pattern abnormalities.

**Thank You!**

Reviewing Veterinarian: Joanna Robson, DVM, CVSMT, CMP, CVA, CSFT, CIT

