Stressed Views

Direct Veterinary Surgery
Surgical Solutions Direct to You

Ok, this is not a term to describe your technical staff taking their 23rd x-ray on the same squirmy patient!

Stressed views are tools used to further characterize the term "soft tissue injury" so often applied to radiographs and physical findings with nebulous soft tissue swelling around a joint.

(When I think about it…we don't hesitate to say we have (ourselves) a sprained ankle when we have acute pain and swelling…but I don't know if I have ever read a veterinary medical record with that phrase on the rule-out list. I wonder why that is?)

Probably seen almost weekly is the swollen carpus or tarsus with a story of "out running in the park (snow, field, woods, highway!) and came back limping or holding it up." What can we do to make our recommendations for "wait and see" vs. "surgical repair" have more UMPH?

The anatomic pathologic difference between those two extremes is best cubbyholed into a ***Sprain Classification Scheme***. (This sprain classification is complicated in the carpus and the tarsus by the fact that there are a few primary collaterals but many little intercarpal/tarsal ligaments we must consider when thinking about the integrity of the whole joint.)

Grade 1: a stretched ligament without tear or loss of function

Grade 2: a partially torn ligament, with integrity substantially intact

Grade 3: complete ligament disruption and joint instability (related to THAT ligament)

All grades are accompanied by effusion and cellulitis. From a distance, they can look quite similar…until we touch, bend and radiograph! Ok, getting closer to the title of the article! 😊

(Great drawings and information found here for carpal and tarsal sprains: http://vetsportsmedicine.com/includes/storage/brio/files/111/CT-inj-wp.pdf)

Getting a more accurate, documented, picture of the patient's situation is best achieved with Stressed Views. This simply means taking x-rays while stressing the joints and

capturing the joint gapping that results when ligaments are incompetent. It really is simple and low tech. They can be taken of elbows/stifles, carpi/tarsi, digits.

First, picture the anatomy of the joint in question. (See, year one of vet school is still coming back to haunt us!!!)

(Well, first, actually, give the patient some pain meds with or without sedation so you can do this without hurting him/her or your technicians!)

Then, take screening views—straight AP and straight lateral of the joint in question.

Then, cone down. Human hands are needed for stressed views, so coning down to a little square around the carpus (or other joint) is all that is needed.

To see a gap created by a bum LATERAL collateral, the view must be in AP. (Same for MEDIAL collaterals).

To see a gap created by torn CAUDAL (or CRANIAL) ligaments/retinaculum, the view must be in lateral.

Next, hold below and above the joint in question and "break" open the joint just like you are breaking a pencil. Bend it so just the site you are interested in is STRESSED. Don't allow it to twist or fold. It doesn't take much—just firm steady bending. Snap the xray.

Always label the film right away…

LATERAL STRESS
MEDIAL STRESS
CAUDAL STRESS
CRANIAL STRESS

And then take comparison stressed views on the normal leg…comparisons make us look SMRT. "See that gap there; it is not on the normal film."

Doing stressed films actually takes less time than it has taken me to write the above directions! (Well, it does in this day and age…I grew up with dip tanks!!!!)

Seeing the normal stressed joints will document what gap is normal. Anything more than that falls in the "sprain" category for one or more of the joint support ligaments. It is

an art to put that gap into the Sprain Classification Scheme. And from there, a negotiation with pet owners regarding the options for treatment.

Some key pathophysiology notes to flavor the negotiation:

- Ligaments are VERY slow to regain strength and integrity. After one year, they may only be at 60% of their original strength. Slow.
- Gaps or elongated ligaments result in ongoing/permanent laxity that effects joint health and function, (and cosmetics).

So, regardless of treatment form,
the take away is:

PATIENCE

AND

SUPPORT
(internal and/or external).

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