Fortier acknowledged it is unclear which biologic approach is best for certain injuries, given the variable nature of biologic therapy, but veterinarians are commonly using a dual PRP/stem cell approach to counteract the time and performance lost with musculoskeletal injuries.

She said to remember that even PRP applied early will not cure the horse without other rehabilitation techniques, which include controlled exercise, weight loss, and consistent and good shoeing.

Fortier reviewed a few questions she commonly fields about PRP:

- **What’s the horse's level of activity following treatment?**
  - The horse resumes active rest with a graded rehabilitation program aimed at getting the horse back to full work in four to six weeks for a previously sound horse.

- **What's the time frame for successful intervention?**
  - Injecting it into a lesion within a few days of injury can stop the progression and growth of a lesion and avoid scar tissue formation. What makes recommendations for regenerative therapies such as platelet-rich plasma (PRP) difficult is that these approaches are based in biology, not chemistry, said Lisa A. Fortier, DVM, PhD, Dipl. ACVS, of Cornell. Each preparation is just as variable and unique as one horse is to the next.

- **How many injections are needed?**
  - Fortier injects 1-3 mL for smaller joints and 3-5 mL for larger ones. But it is important to point out that if injecting stem cells, you need a larger needle to minimize damage to tissues. For lesions, she simply fills them up with PRP. For joints, she uses a slightly smaller needle and injects the PRP around the injury, not directly into it.

- **What if it doesn't work?**
  - PRP doesn't always work. "If you don't get a response for your first injection, you're not going to get a response for a second," so veterinarians that make it a priority to understand the expected outcome and effect the treatment will have on the horse and their ability to return to work quickly must be open to looking at other options.

- **When should you stop?**
  - "These are not drugs, they are not perfect, and they are not going to work when all of your other therapies and also in understanding the controversy that surrounds the best ways to use them. All approaches fail," said Fortier, who is professor of large animal surgery at the university's vet school, in Ithaca, New York. She summarized current research on PRP and what she's learned using it at the 2014 American Association of Equine Practitioners Convention, held Dec. 6-10 in Salt Lake City, Utah.

Recognizing this can go a long way in setting clients' expectations for treatment success using these rich plasma (PRP) inexact approaches to counteract the time and performance lost with musculoskeletal injuries.

The "tremendous degree of variability" among PRP preparations has to do with platelet and leukocyte (a type of specialized white blood cell that aids in healing) concentrations. Current evidence suggests numbers of leukocytes are optimal for increased tissue repair.

Veterinarians initially used PRP for treating tendons and ligament injuries, but Fortier said there is now evidence it can help heal joint injuries as well. Research has shown that PRP can increase synovial fluid production and decrease inflammatory mediators associated with matrix degradation. As with other therapies, however, one of the keys with PRP is treating an injury early when formulating treatment plans, and be sure to use traditional rehabilitation techniques as well.

The "tremendous degree of variability" among PRP preparations has to do with platelet and leukocyte concentrations. Current evidence suggests numbers of leukocytes are optimal for increased tissue repair. Recognizing this can go a long way in setting clients' expectations for treatment success using these rich plasma (PRP) inexact approaches to counteract the time and performance lost with musculoskeletal injuries.

What makes recommendations for regenerative therapies such as platelet-rich plasma (PRP) difficult is that these approaches are based in biology, not chemistry, said Lisa A. Fortier, DVM, PhD, Dipl. ACVS, of Cornell. Each preparation is just as variable and unique as one horse is to the next.

Fortier injects 1-3 mL for smaller joints and 3-5 mL for larger ones. But it is important to point out that if injecting stem cells, you need a larger needle to minimize damage to tissues. For lesions, she simply fills them up with PRP. For joints, she uses a slightly smaller needle and injects the PRP around the injury, not directly into it.