

Conditioning Young Horses

Research shows that appropriate amounts of exercise during the first three years of a horse's life can benefit the musculoskeletal system



The kind of exercise young horses receive in their early years is crucial to optimal bone growth

BY CHRISTA LESTÉ-LASSERRE
ANNE M. EBERHARDT PHOTOS

Before your equine athlete begins full-scale training, he can benefit greatly from preparatory physical conditioning. Yes, it's true that he's still growing, that sensitive structures such as his joints and tendons are still developing, and that, generally speaking, he's immature. But veterinary researchers agree: A fair amount of exercise will do a significant amount of good, not only now but for his entire life. So, it's important to get your youngster out of the stall and into shape.

Muscles, Tendons, and Bones

The first three years of a horse's life—particularly the first two—are a time of great change and development in his locomotor system, particularly the muscles, tendons, and bones (including joints). These structures are the ones you keep in mind most as your prospect matures.

Researchers note that growing muscles adapt to the discipline for which the horse is preparing. That's especially true for how these structures metabolize energy, meaning how they store oxygen and use fat as an energy source. So developing equine muscles properly via exercise is primordial in preparing the young athlete.

Tendons accumulate collagen during growth, which plays a role in their stretchiness and resistance, so safeguarding these structures is critical as well.

As bones grow, they increase not only in length and width but also in density. The mix of minerals in the bones changes, and the bones' inner and outer membranes and outer shells thicken. All these parameters affect bone strength, so, once again, promoting optimal bone growth is essential.

While providing a young horse with suitable nourishment plays a major role in the development of each of these structures, equally important in successfully "growing" an equine athlete is the kind of exercise he receives during these critical first three years.

Dandy Products, Inc. Padding & Flooring Specialists



"Padding At Its Best"

Breeding Sheds, Stocks, Stalls, Trailers, Exercise & Training Areas,
Induction & Recovery Rooms Table & Surgical Pads, Neo-Natal Foal Beds

Non-Slip Safety Floors for All Areas

Pavesafe Bricks & Tiles, Trac-Roll & Vet-Trac Floors, Wash Stall, Grooming, Aisleway and Trailer Mats

Toll-Free 888-883-8386 • 513-625-3000 • FAX 513-625-2600
3314 State Route 131, Goshen, Ohio 45122 • www.dandyproducts.net

Preparing for Their Future

Results of numerous studies on equine exercise over the past decade show a common trend: Appropriate levels of exercise in young horses have no negative effects on their musculoskeletal system. Exercise might even be beneficial for their futures, as it seems to build slightly stronger bone and more resistant tendon tissue.

“This goes against what people have often thought,” said Dr. Roger Smith, professor of Equine Orthopaedics at the Royal Veterinary College in the United Kingdom. “People worry about exercising and racing 2-year-olds and are afraid it could be damaging.”

But now researchers recognize these early months and years offer certain windows of opportunity—when exercise can have a lasting, positive effect on these tissues while they are what scientists call “responsive.”

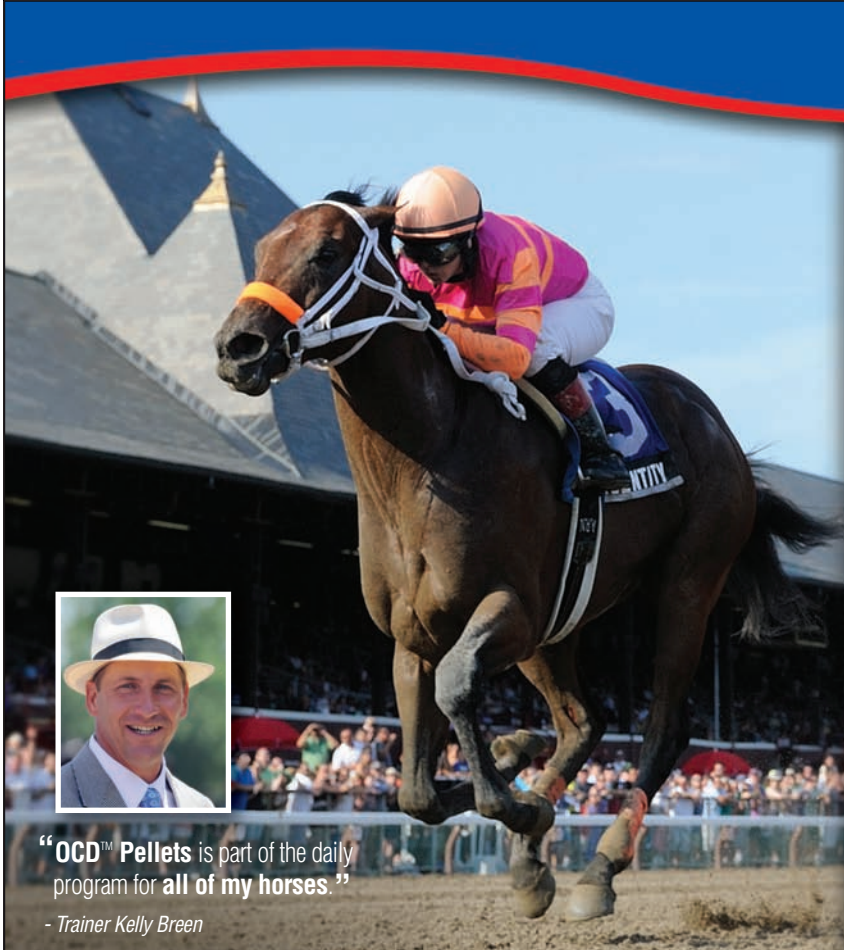
“Different tissues ‘respond’ at different times,” said Smith. “Tendons tend to be responsive early on in life; joints and bones, a little bit later. Certainly we know that bones are especially responsive when (horses) start training as yearlings and 2-year-olds.”



Conditioning young horses to improve their physical fitness requires careful planning

Dr. Hilary M. Clayton, the Mary Anne McPhail Dressage Chair in Equine Sports Medicine at Michigan State Uni-

versity, agrees that horses benefit from exercise as youngsters. She says it gets the horse’s muscles—including his heart



CONGRATULATIONS
to the connections of
Sanford S. (G2) winner
BERN IDENTITY



George & Lori Hall
Owners

Kelly Breen
Trainer



www.DocsProductsInc.com
866-392-2363



Dr. Douglas R. Beebe • Lexington, KY





“OCD™ Pellets is part of the daily program for all of my horses.”
- Trainer Kelly Breen

AquaTrak First of Its Kind

AquaTrak™ is the first unit of its kind, to combine the healing and conditioning benefits of aquatic treadmill therapy with cold salt-water cryotherapy. The unit integrates hydrotherapy with a non-slip, solid surface treadmill to accelerate significantly the rehabilitation and conditioning process. Hydrokinetic exercise is facilitated by the horse's own natural movement to improve performance, increase cardiovascular fitness, improve flexibility, and promote correct posture and gait in a safe, controlled environment. The horse can expend a full range of motion more easily and with significantly lower impact than with traditional exercise under saddle.

By adjusting the speed of the AquaTrak treadmill belt and modifying the water level to create more or less buoyancy and resistance, it is possible to affect a horse's movement pattern and focus more specifically on areas to be conditioned.

Hunter trainer Amy Hassinger says: "With the AquaTrak, I am able to develop a level of strength and flexibility from my ponies through my show jumpers that otherwise would be very difficult to achieve simply by riding them."

For more information on AquaTrak™, please call us at (910) 281-4845 or visit us online at www.aquatrakequine.com.

and lungs—ready for a lifetime of athletic performance, adding that "conditioning prepares all the body systems to produce a maximal performance and also, very importantly, to withstand that maximal performance."

Getting a Head Start

How young is too young for training and conditioning? According to researchers, conditioning can never start too early. "The introduction of low-level exercise, as early on as possible, even as a foal, appears to be protective," said Smith. "Most of the epidemiological data indicates that animals that start their careers (this) early are more resistant to tendon injuries, at least."

Physical conditioning on the ground, without training under saddle, can and probably should begin at birth, notes Dr. Johanna Lepeule, research fellow in the department of environmental health at Harvard University in Boston, Mass. Lepeule studied bone growth and osteochondrosis in young foals while working on her veterinary epidemiology doctorate in France. Osteochondrosis in horses is a disease that occurs when young bone tissue does not mature correctly. Her research showed that foals (particularly younger than 2 months) exercised freely in a moderately sized pasture every day had developed significantly fewer osteochondral lesions by six months, based on radiograph examination, than foals kept in stalls. "They have to get outside and moving," she says, to prevent these problems.

The Right Program

Conditioning young horses requires careful planning. When building a program keep in mind the difference between conditioning and training. Clayton explains that conditioning is physiologic preparation whereas training is teaching technical skills. You'll want to work on training too, but that's a separate issue. First focus on your initial goals of improving physical fitness.

QUILLIN
Leather & Tack

Track Halters	\$58.95
Black Track Halters	\$62.95
Race Track Shank	\$39.95
Black Track Shank	\$39.95

Our New Black Line Features Stainless Steel Hardware And Nickel Over Brass Name Plates.

Call Or Drop By Our Expanded Shop
Visit & Order OnLine At Quillin.com
Kentucky's Largest Custom Shop ... We Ship World Wide

1929 South Main Street • Paris, Kentucky • 40361
(800) 729-0592 • Fax (859) 987-0730 • www.Quillin.Com



Work on building aerobic fitness and strengthening tissue

"In the early stages, conditioning is fairly generic (for all disciplines)," Clayton said. "Work on building aerobic fitness and strengthening the tissues. Build up the aerobic component of work in the early stages while allowing time for the musculoskeletal tissues to respond."

Once your horse is ready to go under saddle, trainers should focus on "slow, easy work" that will allow the horse to get used to having a rider's weight on his back and to round his back under that weight (by strengthening the thoracic and pectoral muscles), says Clayton.

Later, the rider/trainer can adapt conditioning to match the discipline. "The exercises will be more similar to what will be required in competition," she said.

While we're planning for ultimate physical fitness for our athletes, Clayton says we also need to keep in mind their mental fitness. An unhappy horse isn't going to perform well, regardless of his physical condition.

"Souring," which means the horse seems to hate working, can happen in youngsters, but it's fairly rare and would require extensive regular exercise, according to Smith. "At a very high level of

Build Stronger Bone with OCD™ Pellets

The breakthrough formula of OCD Pellets (Optimal Cartilage Development) provides the complete daily nutritional support for the development and maintenance of a skeletal system for healthy bones and joints. The alfalfa-based OCD Pellets are effective in the prevention and treatment of osteochondrosis, equine OCDs (osteochondritis dissecans), bone cysts, DJD (degenerative joint disease), epiphysitis, osteoarthritis, hock problems, etc.

Providing the correct nutrition in the form of supplements is vital for horses. Effectiveness of an oral supplement is determined by its ability to pass through the cell wall directly to the intended destination. The advanced technology of micro-sized isolates within the OCD Pellets, along with the precursors of the active ingredients found in chondroitin and glucosamine, results in better absorption and assimilation of the active ingredients. This revolutionary formulation is made up of hyaluronic acid, amino acids, trace mineral complexes, and vitamins required for the formation of a strong bone matrix. Inflammation interferes with bone-building and accelerates bone loss. Corta-Flx®, a clinically-proven formula found in OCD Pellets, is a source of nutrients that addresses the inflammation of the joint. OCD Pellets will support the bone and joint health of horses in all disciplines and stages of life.

Easy to feed and economical, OCD Pellets can be top-dressed on feedings or blended into your custom feed mixture and will not interfere with any complete feed or supplement.

Doc's Products Inc., wants you to be 100% SATISFIED with our products and services. We proudly offer you our RISK-FREE, 100% MONEY-BACK GUARANTEE! For more info, please visit us at www.docproductsinc.com or contact us at (866) 392-2363.

intense exercise, you could start to see a psychological aspect, like you would in young human athletes (who have pursued the sport with too much inten-

sity)," said Smith. "But the level of exercise we're talking about in young equine stock is much lower than the level needed (to cause the type of effect in horses

Prep for Success

Building Million-Dollar

Keeneland September yearlings, including the sale topper, top weanling in Ocala and top yearling at Fasig-Tipton were all prepped or raised on **Body Builder™**. And the list goes on and on...

Nearly 2/3 of million-dollar yearlings were raised and prepped on **Body Builder™**.

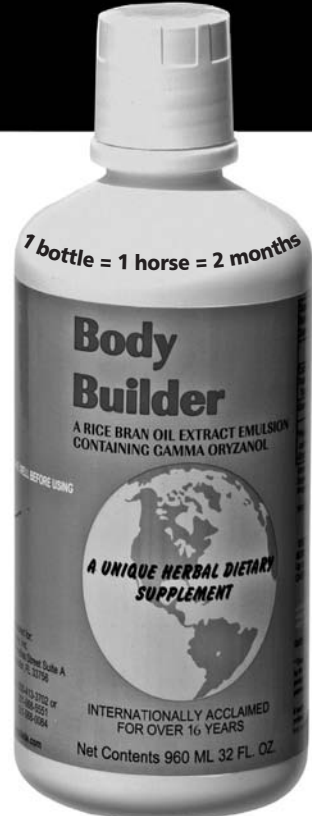
Shouldn't that tell you something?



11% DISCOUNT
PROMO CODE DB11

BODY BUILDER™

The first and still the best after 21 years!



Call now or contact your local distributor

www.equiade.com • 1-800-413-3702 • 201-568-5551



CHRISTINE HANSEN/MONTESSORI FARM

Slow, easy conditioning work will allow your horse to get accustomed to weight on its back

that we see) in human athletes.”

As the field of equitation science expands, we can also take advantage of an improved understanding of equine stress when working with young horses. Equestrian scientist Dr. Witold Kedzierski, from the department of animal biochemistry and physiology at the University of Life Sciences in Lublin, Poland, has been focusing on this very issue.

Kedzierski recently determined that 3-year-olds learning to work under saddle displayed lower physiological stress levels (in particular, lower heart rates) when handlers trained and conditioned them using “natural” methods (working with horses individually in a round pen,

starting them with ground work, schooling them to avoid pressure, and helping them get used to unfamiliar objects) versus conventional methods (walking horses on an automated walker, longeing, etc.). “This was especially true for colts,” he added.

More recently, he observed that colts and fillies exhibited more stress when working in mixed groups. “Training horses in sex-mixed groups is not recommended,” Kedzierski said.

How Much Is Enough?

We’ve established that early exercise benefits these animals, but what comprises “appropriate”? Our sources note that

science hasn’t determined the specifics.

It comes down to “good common sense,” said Lepeule. “You just have to know that if you leave your foal closed up all the time, that’s not good. Or if you leave your foal outdoors all the time and exercise him intensively, that’s not good, either.”

Smith agrees. “There’s always a balancing act,” he said. “If you give them too much exercise, you can cause damage, and we have data on that as well.” Unfortunately, data on adaptive exercise levels is limited, and scientists can’t use it to draw specifics on how much exercise is too much.

So what’s a breeder or an owner of a young horse to do? Smith says probably the best advice is to raise growing horses in outdoor pastures. “Our research demonstrates that the exercise the young horse takes out at pasture produces as good an effect on tendons as what we could achieve by adding extra exercise,” he said, based on studies by the Global Equine Research Alliance—a collaboration of universities from four countries supported by the Horserace Betting Levy Board.

Smith adds that observations made during a collaborative study with the Japan Racing Association’s Equine Research Institute, using GPS and visual monitoring of foals at pasture, showed putting distance between foals’ water sources and food is a good way to encourage pastured youngsters to stay active. “This naturally increases the amount of exercise they do as they play a lot between those two areas,” he said. “It’s a very simple management tool.”



From Innovation Comes Solutions

« NEW SYNTRA RACE PLATE FROM KERCKHAERT

The Syntra series is a unique Kerckhaert design, excellent for training and racing on dirt tracks; allowing easier breakover while still providing the traction needed for coming out of the gate. *With beveled aluminum coming to the top of the insert in front of the toe grab and a rolled toe, this versatile shoe is also a good choice for racing on synthetic surfaces where a regular toe is allowed.*

KERCKHAERT
Dedicated to excellence

FPD
FARRIER PRODUCT
DISTRIBUTION

For the name of a farrierproducts™ dealer near you, please visit farrierproducts.com or call 1-800-468-2879.

Like FPD on Facebook at facebook.com/FarrierProductDistribution • Check out the HoofWall™ Blog at farrierproducts.com/blog

Even so, be reasonable with pasture size, Smith warns. Extremely large pastures for mares with foals can lead mares to travel long distances with their young foals that could become too tired to keep up. Very large pastures also increase the risk of osteochondrosis in foals younger than two months, Lepeule warns.

Whatever you do, make sure you're not locking them up in stalls constantly. "People who don't exercise their young stock at all are going to experience a deleterious effect," said Smith.

Starting your horse in the right conditioning program also requires good sense, keeping in mind the horse's ability to adjust to additional exercise. Similar to a human athlete that must build to higher intensity training incrementally, a horse's work should begin gradually and build up slowly in phases, says Clayton. "Problems occur when the conditioning process proceeds too rapidly in young horses," she noted. "The trainer needs to allow adequate time for tissue adaptation and strengthening."

A Word of Caution

Although young horses are capable of quite a bit of exercise, some kinds of activities are better held off until later. "In young horses, avoid high speeds or high-intensity work, especially on hard surfaces," Clayton said. "They also shouldn't be going downhill at speeds faster than a walk. This kind of work is tough on the bones and joints because it involves high concussion." She also recommends holding off on any work that involves rapid turns or spins until the horse is fully developed. Different breeds mature at different rates, so consult your veterinarian for advice on timing your horse's training.

Despite all our best intentions and efforts, accidents can still happen. So it's a good idea to be aware of warning signs that you've gone too far or that the horse has suffered a mishap. Watch for soft tissue swelling, lameness, a reluctance to work, or a sour attitude, Clayton says.


If you see these warning signs, the best thing to do is stop exercise and call your veterinarian. "If you get to that stage, it's very important that you don't continue (your exercise program)," Smith says.

Take-Home Message

If we use good sense in managing our youngsters, we can help protect their musculoskeletal systems over the long term with proper exercise. And that can help keep athletes healthier and prevent layoffs during their athletic careers. "The single most important reason for horses to lose days of training or competition is locomotor injuries," said Clayton. While



Proper exercise can have a lasting, positive effect on tissues that are "responsive"

we can't prevent all injuries, we can plan ahead. If we do it right, we can give our young horses every chance of having the strong bones, resistant tendons, energetic muscles, and star attitude of the world's greatest equine athletes. 

Excerpted from *The Horse: Your Guide to Equine Health Care*. Free weekly newsletters at www.TheHorse.com

the **HORSE**
YOUR GUIDE TO EQUINE HEALTH CARE

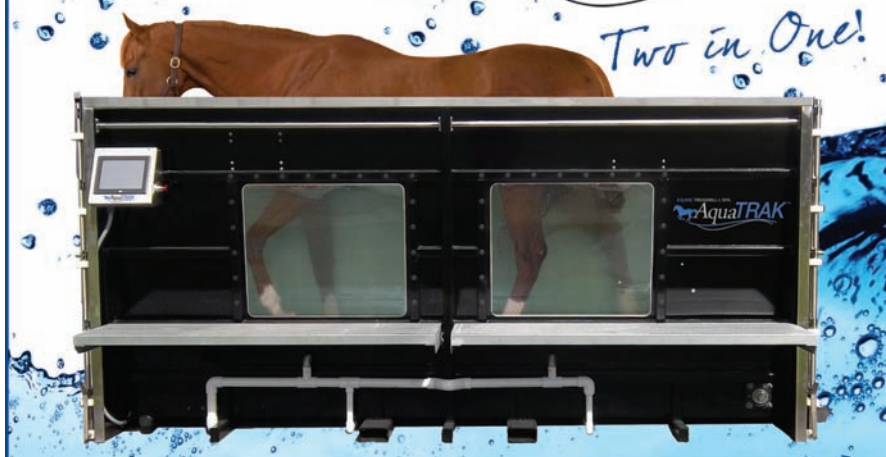
"The AquaTrak™ is nothing short of amazing . . . It gave us an incredible edge this past year in our conditioning program, allowing us to sculpt and shape, targeting different muscle groups. The results speak for themselves"

Anne Prince, Co-Owner
Prince Farm, Palmetto, FL

**aquatic treadmill and
cold saltwater therapy**

EQUINE TREADMILL & SPA
AquaTRAK™

Two in One!



Call 910.285.4845 or visit www.aquatrakequine.com today!