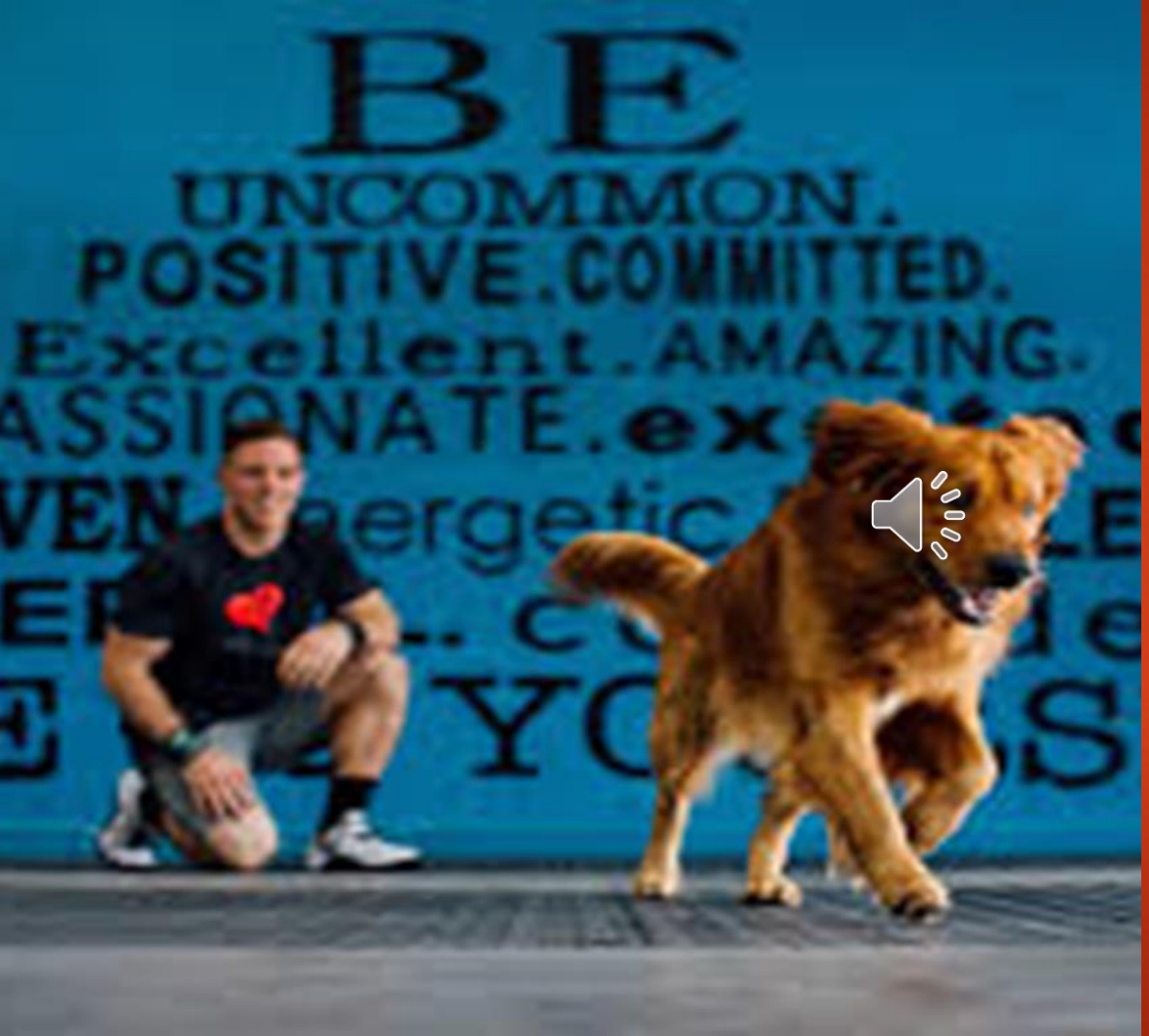
Canine Conditioning Program



Why?

Results of a Program

How you get started

Puppy Conditioning

Definitions

- **Training**= teaching a skill or behavior through repetition
- **Conditioning**= improving the body and mind in preparation for training
- **Stress**= a state of mental or emotional strain caused by adverse circumstances

What is Stress?

- Barking /noise
- Training/intensity
- Overcrowding
- Competition for food, space, etc.
- Poor Diet
- Reduced sleep
- Weather (hot or cold)

What if we could reduce any one of these components for our dogs in training?

Would we expect some dogs to be more successful?

Why does Conditioning our dogs make any sense?

- Enrichment
  - reduce stress
  - reduce boredom
  - improve health
- Exercise
  - improve strength
  - improve endurance
  - prevent injury/disease
  - extend career!!

Why does Conditioning our dogs make sense?

- **Assumption#1**

Dogs come to Training physically ready to train

- We recognize overweight, but do we identify under muscled?
- We focus on behavior not physicality

- **Assumption #2**

We can provide physical fitness through our behavior training

- Young human athletes are more confident in Social circles than underdeveloped "nerds"
- Why is this any different in dogs?

Why does Conditioning our Dogs make sense?

- **Fact #1**

Dogs that are physically fit are more successful

- Training = Stress
- Kennel = more stress!

- The average success of a dog in training is 30-33%,,, EBVs improve this, but it takes years to establish and make successful

- **Fact #2**

Dogs that exercise sleep better

- Improving sleep reduces Stress
- They are more competitive and focus on training better

- **What if** you could increase your percentage in a single year…while the EBV's are beginning to take shape!

Muscle Types

- Humans:

Type 1 Slow twitch

strength, endurance

Type 2a, 2b Fast twitch

long muscles for speed

- Dogs:

Type 1 slow twitch

Type 2a, b fast twitch

Type 2x hybrid fast twitch

Type 1-2a

Type 2ax

Can be converted to Type 1

Building Muscles takes Energy

Humans

- Need glycogen stores for energy,

  eat carbohydrates

or

  convert protein and fat

Dogs

- Use glycogen for quick energy, but…
- Can burn protein and fat directly from their diet by using oxidative metabolism

What do we know?

Some types of exercises make muscles longer… encourage more Type 2 fibers, and thus can make the dog FASTER

This usually takes more carbohydrates, and thus more glycogen to accomplish…

This is Key!

- Some exercises encourage more Type I, for greater strength and ENDURANCE!
- Increase Oxidative capacity 2X
- Increase Protein and Fat use
- Muscles become Fatigue Resistant!

What do we Know…

- **Oxygen rich muscles, Type 1, maintain their oxidative "memory"**

- **Type 2 muscle types**

  when converted, prefer to

  stay in Type 1 oxidative state for life

What do we need to be Ideal?

- ***Exercise*** Textbook says 5 days a week for 8 weeks (40 hours) to gain mass and convert muscle types
- ***Diet*** high protein (32%)to increase performance while conditioning
- ***Oxygen***
  to encourage faster return to activity and better muscle memory

So How Did we Build it?

RESULTS FROM A PROGRAM

6 Weeks Conditioning

- IFT dogs came to campus 3-6 weeks early
- Plan at least 15 hours of exercise
- Select for "least likely to succeed" at BCL

  a. Overweight BCS 7+

  b. Poor BCL assessment

  c. Abnormal gait on evaluation

  d. Low confidence

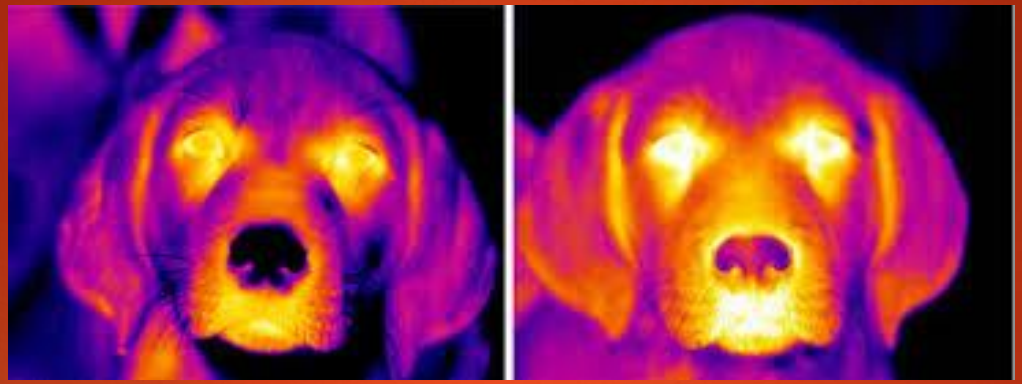
7S18	c	stress response, tries to get away from handler				gd4		8
1T18	x	Renal dysplasia;	Adoption	PRS	Transfer to PR	gd1		
4T18	c			Transfer PR		gd3	5.5	6
6T18	X	Ocular pigmentation	Adoption	PRS	Transfer	gd3		
7T18		breeder evaluate		Transfer to PR		gd3	7	6
8T18	c					gd1;gd4	8	6
10T18	c					gd4	6	5

Dr. C Queries

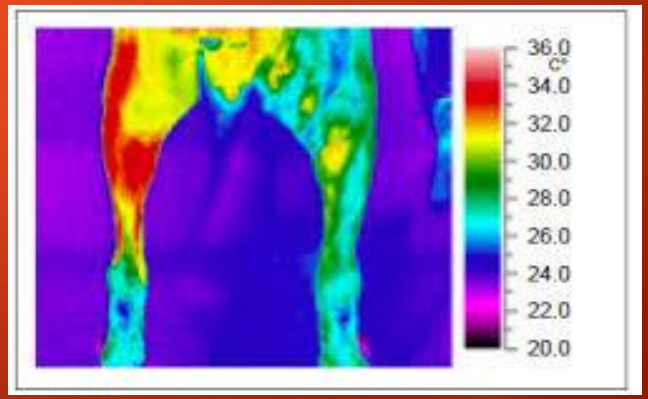
Physical Exam

Weight	Body Score (Purina 1-9 scale)	Weight Distribution
Leg length & leg muscle diameter before and after the program	Range of Motion of carpus, elbow, shoulder, tarsus, stifle, and hip	Any Physical abnormalities noted at this time

Digatherm and Weight Distribution



- Weight distribution
- Muscle measures
- Diagnose injuries



Gait Evaluation

Gymnasium

Indoor Exercises

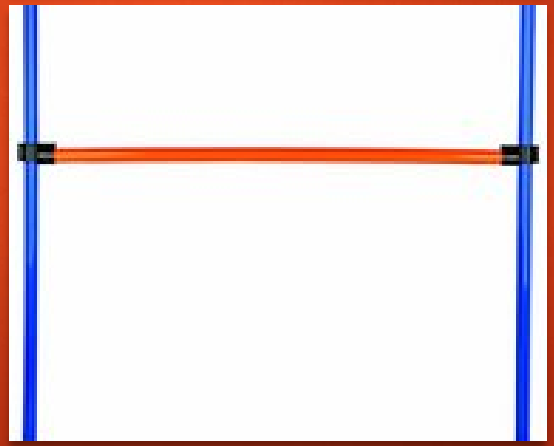
- Fit Paws Equipment
- Creates Balance
- Strength and Core development
- Confidence builder

Dry Treadmill

- Improves Under-footing confidence
- Builds endurance, strength
- Corrects for gait abnormalities

Outdoor equipment

- Stairs and ramps
- High jumps
- Tunnels



Outdoor Equipment

- Weave poles
- Cavaletti rails
- Wickett walk
- Army crawls

Hydrotherapy

Best form of exercise!

Strength

Endurance

Resistance

Bouyancy

Balance

Water Confidence

Swimming Pool + Swim Assist

Hyperbarics

- Replace oxygen depleted during exercise
- Build oxygen “memory” into muscles
- 2-3 “dives”, 10% of dogs

Acupuncture and Massage

- Anxiety
Muscle soreness
- Focus factor
- Recovery
- Select dogs as needed

What did we discover?

- Increase ROM by 10-15 %
- ROM from 1 leg to the opposite side is widely different
- Increase muscle mass on dogs by as much as 25% in 6 weeks!... Avg. is 12%
- 90% of the dogs started with more weight on the rear feet
- 50% changed to 50:50 in 6 weeks
- 80% have one rear leg longer than the other
- 20% over 1 inch longer!

Results from 1 Year of Conditioning

2018

- **Total Guide Dog Graduation was 28% of dogs that started training**

2019

- 53 dogs in our program for 6 weeks went into Training
- Chosen as "Least likely to succeed"
- 38 dogs graduated! (72%)

- **Raised total Guide Dog Graduation to 45% of dogs that started training**

How Do You Get Started?

EXERCISES AND EQUIPMENT

Preparation and Recovery

Physiological Effects

- Increases blood flow to tissues
- Prepares the dog's body for stretching
- Prepares the heart for increased activity
- Primes the neuromuscular system
- Provides physical arousal and improves reaction times

- Examples:

Examples:

- Walk /trot for 5-10 minutes
- 5 minutes of active stretching
- Sit/Stand 10-15 times.

Strength Training

- **Strength**: Ability of a muscle or muscle group to produce tension and create a resultant force.

- 3 Basic Principles of Strengthening Exercise

1. ***Specificity***- emphasize the body systems that are used during the sport and that are deficient in the individual dog.

2. ***Low/ Non Impact***- dogs get enough during training

3. ***Overload***- a load that exceeds the maximum capacity of the muscle or cardiovascular system must be used to gain strength (sets and repetitions - reps to fail). Have to work to overload, or you are wasting your time.

Strength Training

- Duration + Intensity + Frequency = Total Work
- Training schedule:
  - **Duration** (how long?)
  - **Intensity** (how hard?)
  - **Frequency** (how often?)

- We prescribe Duration and Frequency,
- Volunteers are responsibly for Intensity

***** Need 48 hours to recover *****

***** Don't train same muscles 2 days in a row *****

Exercise Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
Warm Up Flexibility	5-10 min trot Active stretch		5-10 min trot Active stretch		5-10 min trot Active stretch
Strength FL, RL, WB, C	2 x FL 2 x RL	2 x C 2 x WB	2 x FL 2 x RL	2 x C 2 x WB	2 x FL 2 x RL
Aerobic Exercise		Running		Swimming	
Prioprioception and Balance	10-15 minutes		10-15 minutes		10-15 minutes
Cool Down Flexibility	5-10 min trot Passive stretch		5-10 min trot Passive stretch		5-10 min trot Passive stretch
Other		Hyperbaric or O3	Acupuncture	Hyperbaric or O3	Massage

Core Strength

- Diagonal Leg Lifts
- Elevated Sit to Stand
  - Raise the front paws incrementally until elbow height
- Abdominal Crunches
- Lateral and Ventral
- Rollover
  - Increase difficulty by rolling up a hill

Front Leg Strength

- Wheel barrow
- Handstand (pad, ramp, peanut)
- Pivot disc, back legs on

Rear Leg Strength

- Elevated Sit to Stand
- Side Stepping (medial and lateral thighs)
  - Increase difficulty: step over objects
- Pivot disc, front legs on
- Pull against a theraband
- Run up hills
- Pulling weights

Whole Body Strength

- Cavalettis
- Wicket walk
- Gait/Trot poles
- Plyometrics (side to side jumping)
- Swimming
- Underwater treadmill

Balance and Proprioception

- Ladder…forward and backward
- Weave poles
- Narrow plank walking
- Cavaletti rails
- Side stepping


Puppy Program
for Conditioning

Conditioning = Enrichment

Start slow

increase incrementally

Be regular and consistent,
i.e. 2-3 times a week

It's not the equip.
it's about the repetitions!

Puppy Attention span is shorter,
make the adjustment!

Be Progressive

- **10 weeks**: Sit/cookie stretch 5 seconds; step over tape on floor, add Bows
- **12-14 weeks**: Increase reps, add stairs and obliques
- **16+ weeks**: Increase work on stairs/steps, slow down! Add a Kiddie pool
- 24+ weeks: Increase stretches, Jumps, and runs

Pronated Toes Protocol

Cause

Puppies born too heavy, or on slippery flooring

Internal (mediator muscles) develop faster than external rotators

To Correct, encourage exercises that point toes forward

Exercises

1. Stairs…climbing up, not down
2. Ramps…keep it short and shallow
3. Cavaletti rails…broomsticks on the floor
4. Swimming…hold them up in a tub, 5 minutes

Puppy Raisers and Conditioning

Plan

- Its more than just exercise
- Separate training time from Enrichment/Conditioning
- Have fun with it
- Graduate the plan to fit the age, size and interest of the puppy
- Use household items… boxes, ladders, tape,

Exercises

- **Point of Contact**…similar to 'T-touch'
- **Squat**…Sit-stand-sit in succession, 5-10-15 times. A good warm-up
- **Cookie Stretch**
- **Bow WOW**…push-ups
- **Kiss my Glutes**…lateral bends
- **Diagon alley**…walk sideways or angled up hills, ramps, etc.
- **I'm Not your Stepping Stone**…cavaletti rails
- **Inclines and Declines**…change angles that muscles work
- **Go Long!**...walking longer distances with changing substrates
- **Swim Time**

Summary

- A Conditioning Program is **not** for everyone. It takes extra time, effort, and resources
- But what is the cost of one dog to graduate?
- How many more dogs need to be successful for this to make sense for you?

THANK YOU

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