Bowling

Training, Health, and Fitness Guide

A quick-start resource for all levels of coaches.

Table of Contents *Note- Page numbers in packet will not line-up with numbers listed below*

- Health and Fitness Talk 2-12
- Warmup and Stretching 13-21
- Sample practice plan 22

Partially sourced from: Special Olympics International Bowling Coaching Guide
HEALTH and FITNESS TALK

Suggestions for including a focus on year-round health and wellness in your sports practice.

“To be a great athlete, you need to be a healthy athlete.”

These discussions are laid out in balance, order, and accordance with Special Olympics Montana’s 8 weeks – 10 hours practice requirements. An included practice plan, which shows how these discussions can fit in a practice, is included in this same packet.

The goal of Health and Fitness Talk is to support the health, fitness, growth, and success of Special Olympics Montana competitors. It is designed to be used as a part of your practice season. The following discussions will provide competitors with the introductory knowledge to begin thought processes on:

- Identifying nutritious choices
- Balancing nutrition and portions
- Making healthy and balanced snack and meals choices
- The importance of hydration
- Identifying unhealthy beverage choices
- Understanding endurance and strength
- Understanding flexibility and balance
- Understanding the benefits and fun of exercise

If you are interested in a more in-depth Health and Fitness Program, explanations, examples, and lesson plans/guides, reach out to the Special Olympics Montana Senior Director of Innovation at 406-216-5327.

Practice Week #1 Discussion: NUTRITION: Eating right is important to your health and your sports performance. Eating right can be easy and enjoyable because there are many delicious healthy choices.

Your goal is to eat at least 5 total fruits and vegetables every day!

Tell your teammate the names of some Fruits:

- Fresh: Apples, Bananas, Berries, Grapes, Kiwi, Oranges
- Frozen Fruits
- Canned fruits (pick options with no added sugar)
- Dried fruits: Raisins, Bananas, Apricots

Tell your teammate the names of some Vegetables:

- Fresh: Asparagus Broccoli, Carrots, Cauliflower, Green Beans, Peppers, Squash
- Lettuces and Dark Leafy Greens
- Frozen Vegetables
- Salads
- Canned Vegetables
-What fruits can you have for breakfast? Lunch?
-What vegetables can you have for lunch? Dinner?

You know fruits and vegetables are important for your health, but sometimes it can be difficult to know what other foods you should be eating. Here is a list of the other food groups and some great choices in each group that make up a healthy meal or diet.

**Grains:**
- Brown or Wild, or Unpolished Rice
- Oatmeal
- Whole Grain Bread
- Whole Grain Pasta
- Whole Grain Crackers
- Tortilla
- Flatbread

**Diary:**
- Low-fat or Skim Milk
- Low-fat Cheese
- Low-fat, unsweetened yogurt (watch the sugar!)
- Cottage Cheese

**Meats and Beans (Protein):**
- Lean Meats
- Eggs
- Fish (frozen, fresh or canned)
- Nuts
- Beans

-Tell your partner the Grains you ate yesterday. Dairy?
-Share with a teammate what protein (Meats & Beans) you had last night for dinner.

**Practice Week #2 Discussion:** **BUILDING A HEALTHY PLATE:** From last time, you now know what types of foods to eat. Here is how to build a healthy plate for a meal or for a snack.
- Watch the amounts of food you put on your plate (share/discuss the “Perfect Portions” diagram below).
- Save junk food like desserts, chips and sodas for special occasions.
- Make half of your plate fruits or vegetables (see diagram below).
- Fill the other half with foods like whole grains, dairy, and protein.
- Add more fruits and vegetables to your meals.
- Keep snacks healthy and small.

-Tell your teammate how to build a healthy plate.
-Name the 4 food groups that should make up a healthy meal.
Perfect Portions

Here is a fun way to remember how much to eat when you have a serving. The size of sports equipment on the left is about the same size as one serving of the foods on the right.

- Base-ball = 1 serving of fruit
- Horseshoe = 1 serving of pasta
- Candle = 1 serving of nuts
- Golf ball = 1 serving of butter

Make half of your plate fruits or vegetables.

Fill the other half with foods like whole grains, dairy, and protein.
Practice Week #3 Discussion: HEALTHY SNACK IDEAS: Snacking is a great way to make sure you are full of energy. It is important to keep your snacks healthy. Here are a few ideas for tasty snacks that are packed with fruits and vegetables.

- Apple slices dipped in peanut butter
- Low-fat unsweetened yogurt with berries
- Low-fat cottage cheese with tomatoes
- Carrots or peppers dipped in hummus
- Celery topped with peanut butter and raisins

- What snacks do you like the most? Are these healthy snacks or junk food snacks?
- Tell your partner a healthy snack you could make for yourself.
- Are these healthy snacks (thumbs up) or junk food snacks (thumbs down)?
  - Doritos
  - Banana with peanut butter
  - Snickers candy bar
  - A half cup of nuts
  - Carrot sticks
  - A cookie

HEALTHY MEALS: Add more fruits and vegetables to your meals. You can make any meal more nutritious with these simple suggestions.

**Breakfast**
- Have a piece of fruit with your meal
- Vegetables like spinach, tomatoes, onions and peppers make great toppings on omelettes.
- Dried or cut fruit make great toppings on cereal and oatmeal as well.

**Lunch**
- Top sandwiches with plenty of vegetables like lettuce, tomatoes, cucumbers, peppers, and sprouts.
- Try apples, carrots, or celery for a crunchy side.
- Add leftover or canned vegetables like peas and carrots to soups.
- Make a salad with your choice of meat, cheese, lots of vegetables, and an oil-based dressing.

**Dinner**
- Add vegetables like broccoli, squash, or peppers to pastas.
- Make a stir-fry with brown rice, your favorite lean meat or seafood, and vegetables.
- Add a side of steamed vegetables or a salad to any meal.
- Have some fruit as a healthy dessert.
-What healthy items can you add to a salad (carrots, tomatoes, sunflower seeds, etc.)?
-Do you like oatmeal? What can add to oatmeal (banana, blueberries, etc.)
-Tell you partner how are you doing with the goal of having half your plate be fruits and vegetables.

Practice Week #4 Discussion: HYDRATION: Water is another important fuel for sports and for life. Drinking the right amount of water is important for your health and can also help your athletic performance.

Your goal is to drink 5 bottles of water every day! Your water bottle should be 16-20oz or 500-600ml. Drink out of a sports water bottle to track your water intake. Sports bottles are refillable and can hold 16-20oz or 500-600ml of water.

-Do you have a water bottle? Do you take it with you when you go places? Do you bring it with you to practice?
-Are you drinking water with your meals?

SIGNS OF DEHYDRATION: Water helps to keep your body working properly. You lose water when you go to the bathroom, sweat, exercise or even breathe. If you lose too much water without drinking more, your body won’t work as well. This is called dehydration.
**Signs of Dehydration:**
- You feel thirsty
- You are tired or sluggish
- You have a headache
- Your mouth is dry
- Your urine is dark yellow or brown

-Tell your teammate two of the signs of dehydration.
-Have you ever been dehydrated? How did you know? How did you feel?

**Practice Week #5 Discussion:** **HEALTHY BEVERAGE CHOICES:** There are many beverage options available, but some of them are healthier choices than others. This guide can help you make the best choices to stay hydrated and perform your best.

-What is your favorite thing to drink? How often do you drink it (most days, sometimes, special occasions)?
-What is the best thing to drink (water)? Why (no sugar)?

**Sodas, energy drinks, and sports drinks are NOT good beverage choices.**
Sodas, energy drinks, and sports drinks have extra sugar and can make you gain weight. Energy drinks and many sodas also have caffeine. Caffeine does not help you stay hydrated.

** Moderate amounts of low-fat milk and 100% juice are also good choices in small amounts.**
Low-fat milk and 100% fruit juice are good choices with meals. Keep serving sizes small. No more than 3 cups of milk and 1 cup of juice per day.

**Water is the best choice for a beverage!**
Drink water every day! If you like flavored drinks, try sparkling water or add a few pieces of fruit into your water bottle.
You might consider bringing in some beverages and having your athletes look at the number of grams of sugar in each one. The athletes could count out the number of sugar cubes represented in each drink.

4 grams of sugar = 1 sugar cube

- How does it make you feel knowing that there are 10 teaspoons of sugar in a can of Coke?
- Do sports drinks like Gatorade have sugar in them? TV ads don’t tell you that, do they?
Practice Week #6 Discussion: **EXERCISE- Endurance & Strength**: You can become a better athlete by enjoying physical activity outside of your sports practice. There are many ways to be physically active. Certain exercises can help you improve the skills needed for your sport. Your goal is to do at least 5 days of exercise every week!

*Types of Exercise: ENDURANCE STRENGTH FLEXIBILITY BALANCE*

---

**Endurance**

*Endurance is the ability of your body to keep moving for long periods of time.* Endurance can help you run farther distances without stopping and practice longer with fewer breaks.

**Try your favorite endurance exercise for 30 minutes, 5 days each week.**

- Running
- Biking
- Dancing
- Brisk Walking
- Aerobics Classes
- Swimming
**Strength**

*Strength is the ability of your body to do work.* Strength gives you the ability to jump higher, throw farther, and sprint faster.

**Try to complete a workout for the entire body, 2-3 days each week.**

- Is dancing exercise? (Yes, endurance.)
- Running, biking, and swimming are examples of what type of exercise? (Endurance)
- Push-ups and sit-ups are what kind of exercise? (Strength)
- What exercise do you do for endurance? Strength?

**Practice Week #7 Discussion: EXERCISE - Flexibility & Balance:**

**Flexibility** is the ability of your body to move easily in all directions. Being flexible makes it easier to do sports skills and helps prevent injuries to your muscles and joints!

**Balance** is the ability of your body to stay upright or stay in control of your movements. Balance helps you to stay in control when you are playing sports and helps you to avoid falls.
Flexibility is the ability of your body to move easily in all directions. Being flexible makes it easier to do sports skills and helps prevent injuries to your muscles and joints!

Try to complete a stretch for all body parts, 2-3 days each week!

Note: Dynamic stretching should be done as part of your warm up. Static stretching should be done as part of a cool down.

Balance is the ability of your body to stay upright or stay in control of your movements. Balance helps you to stay in control when you are playing sports and helps you to avoid falls.

Try to complete a full body balance workout, 2-3 days each week!
Practice Week #8 Discussion: **EXERCISE IS FUN!**

Doing exercise together is a fun way to socialize with friends and family.

- How many of you could walk with a friend after school or work? Attend an exercise or fitness class? Bike on a trail? Take a walk with your mom or dad?
- What is a new exercise you would like to try?
- Share your exercise goal with a partner.

The diagrams in this document are from the Special Olympics *Fit 5 Guide*.

Other resources:

- **NCHPAD.org** This website has lots of health resources for people with disabilities. They have articles, videos, and even workout plans.
- **ChooseMyPlate.org** This website has it all! Learn how many servings of each food group you need, track your eating to see if you are eating healthy, and even find links to healthy recipes.
- **EatRight.org** This website also has loads of nutrition information, healthy recipes, and even a section to find a dietitian in your area.
- **Heart.org** (click on the heading, “Getting Healthy”) The American Heart Association has great resources for leading a healthy lifestyle, including a nutrition center with tons of recipes and cooking videos for heart-healthy recipes.
- **Diabetes.org** (click on the heading, “Food & Fitness”) The American Diabetes Association has lots of great articles for people who have diabetes. There are also many diabetes friendly recipes!
Teaching Bowling Skills
The Warm Up and Cool Down

The Warm-Up
A warm-up period is the first part of every training session or preparation for competition. The warm-up starts slowly and systematically and gradually involves all muscles and body parts that prepare the athlete for training and competition. In addition to preparing the athlete mentally, warming up also has several physiological benefits.

The importance of a warm-up prior to exercise cannot be overstressed. This is true even for a sport like bowling. Warm-up raises the body temperature and prepares the muscles, nervous system, tendons, ligaments and the cardiovascular system for upcoming stretches and exercises. The chances of injury are greatly reduced by increasing muscle elasticity.

The basic physical fitness needs for developing bowling skills are strength in the upper arms and shoulders and endurance in the upper arm, shoulder and legs. Upper arm and shoulder strength will help the athlete develop the smooth and coordinated approach and delivery. Endurance allows the athlete to be able to bowl without undue fatigue when bowling a number of games (i.e. league play and tournament play).

The warm-up is tailored for the activity to follow. Warm-ups consist of active motion leading up to more vigorous motion to elevate heart, respiratory and metabolic rates. The total warm-up period takes at least 25 minutes and immediately precedes the training or competition. A warm-up period will include the following basic sequence and components.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Purpose</th>
<th>Time (minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow aerobic jog</td>
<td>Heat muscles</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Stretching</td>
<td>Increase range of movement</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Event-Specific Drills</td>
<td>Coordination preparation for training/competition</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

Jogging
Jogging is the first exercise of an athlete’s routine. Athletes begin warming the muscles by jogging slowly for 3-5 minutes. This circulates the blood through all the muscles, thus providing them greater flexibility for stretching. A jog should start out slowly, and then gradually increase in speed to its completion; however, the athlete should never reach even 50 percent of his maximum effort by the end of the jog. Remember, the sole objective of this phase of the warm-up is circulating the blood.

Stretching
Stretching is one of the most critical parts of the warm-up and an athlete’s performance. A more flexible muscle is a stronger and healthier muscle. A stronger and healthier muscle responds better to exercise and activities, and helps prevent athlete injury. Please refer to the “Stretching” within this section for more in-depth information.
Event-Specific Drills

Drills are progressions of learning that start at a low ability level, advance to an intermediate level and, finally, reach a high ability level. Encourage each athlete to advance to his/her highest possible level.

Kinesthetic movements are reinforced through repetitions of a small segment of the skill to be performed. Many times, the actions are exaggerated in order to strengthen the muscles that perform the skill. Each coaching session should take the athlete through the entire progression so that he/she is exposed to the total of all of the skills that make up an event.

Specific Warm-Up Activities

- Swing arms back and forth, simulating the pendulum swing.
- Walk through the approach and delivery without the ball.
- Use 10-15 minutes as a warm-up period on the lane, bowling the ball.

The Cool-Down

The cool-down is as important as the warm-up, however it is often ignored. Abruptly stopping an activity may cause pooling of the blood and slow the removal of waste products in the athlete's body. It may also cause cramps, soreness and other problems for athletes. The cool-down gradually reduces the body temperature and heart rate, and speeds the recovery process before the next training session or competitive experience. The cool-down is also a good time for the coach and athlete to talk about the session or competition.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Purpose</th>
<th>Time (minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow aerobic jog</td>
<td>Gradually reduces heart rate and</td>
<td>5 minutes</td>
</tr>
<tr>
<td></td>
<td>body temperature</td>
<td></td>
</tr>
<tr>
<td>Light stretching</td>
<td>Removes waste from muscles</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>
Teaching Bowling Skills
Stretching

Stretching
Flexibility is a major element in an athlete’s optimal performance in both training and competing. Flexibility is achieved through stretching, a critical component in warming up. Stretching follows an easy aerobic jog at the start of a training session or competition.

Begin with an easy stretch to the point of tension, and hold this position for 15-30 seconds until the pull lessens. When the tension eases, slowly move further into the stretch (developmental stretching) until tension is again felt. Hold this new position for an additional 15 seconds. Each stretch should be repeated four to five times on each side of the body.

It is also important to continue to breathe while stretching. As you lean into the stretch, exhale. Once the stretching point is reached, keep inhaling and exhaling while holding the stretch. Stretching should be a part of everyone’s daily life. Regular, consistent daily stretching has been demonstrated to have the following effects:

1. Increase the length of the muscle-tendon unit
2. Increase joint range of motion
3. Reduce muscle tension
4. Develop body awareness
5. Promote increased circulation
6. Make you feel good

Some athletes, like those with Down syndrome, may have low muscle tone that makes them appear more flexible. Be careful to not allow these athletes to stretch beyond a normal, safe range. Several stretches are dangerous to perform for all athletes and should never be part of a safe stretching program. These unsafe stretches include the following:

- Neck Backward Bending
- Trunk Backward Bending
- Spinal Roll

Calf Stretch
Stretching is effective only if the stretch is performed accurately. Athletes need to focus on correct body positioning and alignment; take the calf stretch, for example. Many athletes do not keep the feet forward in the direction they are moving.

Incorrect

Correct

Feet point straight ahead
Another common fault in stretching is bending the back in an attempt to get a better stretch from the hips. An example is a simple sitting forward leg stretch.

As you can imagine, there are a host of stretches and variations to them to achieve your goals. However, we will focus on some basic stretches, highlighting major muscle groups. Along the way, we will also point out some common faults, illustrate corrections and identify stretches that are more event specific. In addition, we will also have some reminders to keep breathing while stretching. We will start at the top of the body and work our way to the legs and feet.

**Coaching Tips**

- Try to have a low player/coach ratio.
- It is important that coaches and assistants make sure that stretches are being done effectively and are not harmful to the athlete. To do this may require direct, individual physical assistance, particularly with lower ability players.
- Some stretches require a good sense of balance. If balance is a problem, use stretches that can be done while in a sitting or lying position.
- Coaches should attend to athletes doing the exercises improperly, as well as provide personal attention and reinforcement to those doing them effectively.
- Use stretching as a “teachable moment” with athletes. Explain the importance of each stretching exercise and which muscle group is being stretched. Later, ask the athletes why each stretching exercise is important.
Teaching Bowling Skills
Stretching

The following stretches are designed to specifically loosen and limber those muscles that are used most during bowling. An ideal routine includes three sets of five, with at least three exercises in each major muscle group.

**Upper Body**

**Neck/Shoulder Stretch - Side**
Stand/sit in comfortable position, shoulders and arms relaxed at sides
Slowly turn head to left, back to center, turn to right
Slowly tilt head to back, back to center, bend forward, chin to chest

**Neck/Shoulder Stretch - Front**

**Wrist Stretch**
Clasp wrist of opposite hand
Pull gently to loosen wrist

**Chest Opener**
Clasp hands behind back
Palms facing in
Push hands up, towards sky
**Upper Body**

**Side Arm Stretch**

Raise arms over head
Clasp wrist of opposite hand and pull gently to the opposite side
Push up toward sky with opposite arm
Bend torso slightly to the opposite side

**Triceps Stretch (Back)**

Raise both arms over head
Bend right arm, bring hand to back
Grasp elbow of bent arm and pull gently toward the middle of the back
Repeat with other arm

**Triceps Stretch (Front)**
Teaching Bowling Skills
Stretching

Upper Body

Forearm Flexors

Clasp hands together in front, palms facing out
Point fingers up, wrist bent
Grasp fingers with other hand
Gently pull fingers toward body
Repeat with other hand

Side Stretch

Raise left arm over head, keep other arm at side
Bend sideways to the right
Repeat with other arm to left side

This exercise can also be done with assistance; the athlete above is using his cane. Athletes can also use a stable assistive device to aid them in completing their stretching routine.
Low Back & Glutes

**Quadriceps**

Balance on one leg while bringing the heel of opposite foot up to buttock
Grasp the heel of the foot and gently push back with the quadricep muscle, not the knee
Repeat with other leg
If your athletes have trouble keeping their balance, let them hold on to your shoulder or a teammate’s

Lower Body

**Ankle Rotations**

Balance on both feet, standing tall
Shift weight to left leg
Point toe of right foot downward
Rotate foot around ankle clockwise three to five times
Rotate foot around ankle counterclockwise three to five times
Shift weight to left leg and repeat

**Forward Bend with Crossed Legs**

Stand, arms outstretched overhead
Cross one ankle over the other ankle
Slowly bend at waist
Bring hands to ankle level without strain
Lower Body

Forward Lunge

Step out with left leg
Bend left knee, extend leg and shift weight forward and hold
Repeat with opposite leg

Forward Lunge with Assistance

This exercise can also be done with assistance; the athlete above is using his cane. Athletes can also use a stable assistive device to aid them in completing their stretching routine.

Calf/Achilles Stretch

Place palms against wall
Step back with left leg
Bend right knee and extend as in the forward lunge until slight tension is felt and hold
Repeat with opposite leg
Training Plan with Health and Fitness Elements

Elements of a safe and successful practice

- Check area for safety hazards
- Warmup
- Stretching
- Skills practice
- HYDRATE!!!
- Competitive/fun session
- Cool down
- Health and fitness discussion
- Wrap-up and conclusion
- *Elements can be added and subtracted, as desired*

1.25 hour practice plan example

- 8:30-8:40 – Coach arrives and checks area for safety hazards.
- 8:45-8:50 – Walking or jogging to warm-up muscles.
- 8:50-9:00 – Stretching
- 9:00-9:15 – Skills practice
- 9:15-9:20 – Water break
- 9:20-9:30 – Skill practice
- 9:30-9:40 – Competitive/fun session
- 9:40-9:45 – Cool down
- 9:45-10:00 – Health and Fitness Discussion, Wrap-up, and conclusion