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ABSTRACT

Hyperactivity continues to be one of the major symptoms presented to the school psychologist when children are referred for help. This paper discusses the development of a program of sequential motor exercises to train and develop the inhibitory function of the hyperactive child. The inhibitory training program is designed to follow the natural development of the child and also to remediate deficits that have developed. It is mentioned that although hyperactivity appears to be multi-etiological, it chronically shows the imbalance of the excitatory and inhibitory processes. A number of psychological implications related to this training are discussed. This pattern of exercises utilizes inhibition at at three levels: (1) the innate response system, such as tonic neck response, reciprocal response, mechanics of movement, grasp, stato-kinetic response; (2) the general motor system, using unilateral, bilateral and contralateral abilities; and (3) the special motor systems of eye-hand coordination and hand combinations. (Author/BW)

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INHIBITORY TRAINING: AN ALTERNATIVE APPROACH TO DEVELOPMENT OF CONTROLS IN HYPERACTIVE CHILDREN

by Regina Flynn and Buena Hopson

Hyperactivity continues to be one of the major symptoms presented to the school psychologist when children are referred for help. The teacher complains that she could handle her class if it was not for one or two youngsters who are out of their seats, constantly talking, oblivious to admonishments, disruptive in their bumbling way. Parents report that the child has always been active, hard to cuddle, difficult to pin down to routine and structure. As school personnel become more knowledgeable they identify more children as "hyperactive." Clinics are swamped for referrals; doctors, sociologists, psychologists and parents debate the ethics and advantages of giving drugs to children to manage behavior.

Hyperactivity seems to fall into three general categories: 1) situational, in which it is increased because of the environment in which the child finds himself, such as reaction to a hyperactive parent or sibling, temporary hyperstimulation because of outer stimulus, or inner motivation and anticipation; 2) emotional; 3) neurological.

Techniques to reduce hyperactivity and promote inhibition and control have long been used in classrooms, homes, gymnasiums and groups. They range from intricately clinical to common-sense approaches. They are used by good teachers and good parents as positive methods. There are negative methods and poor methods. There are methods that work because of fear and those that work because they are fun. There is a need for an organized positive approach using the best of our knowledge of behavioral management and specific learning abilities.

There is a need for training that is based on a sequential development natural to the child which will serve to remediate and develop his

natural system of inihibition and control. We have been saying use, control, inhibit; if a child sits on a chair he will learn to inhibit his gross body movements. This is not a natural sequence, except at the upper levels where control is already established and motivation is high. The natural sequence of development is really use, inhibit, control. The infantile sequence is the use, or existence of the response, then the discriminatory, inhibitive-integrative experience, and then control of the movement. For example, a child may startle at the first touch but later it learns to snuggle up to his mother when she picks him up.

In order to create a sequential developmental program we must take a look at the components of hyperactivity. The negative aspects, such as poor attention span, lack of concentration, perseveration and impulsiveness, are usually mentioned. But perhaps inhibition should be given a more prominent place in the syndrome. Medically, we know that inhibition takes place every time we concentrate or focus on a stimulus. We have to block out other things. Every time we perseverate we know we are not blocking, and the item(idea) is being held over and over.

Life Magazine recently presented a layman's explanation of the neural system and illustrated a synaptical "firing" caused by outer stimulation as an exciting event. It goes on to talk about inhibition:

> Inhibitory synapses are as common as excitatory ones. Indeed inhibition is itself vital to the functioning of the brain. It sharpens signals from sense organs by suppressing fuzzy stimuli around their edges. It refines the behavior of motor neurons, which control the muscles. Most of all, it protects higher brain levels from being swamped by insignificant information. Without inhibition, we would have something like an epileptic fit every time we opened our eyes.

Increasingly hyperactivity is seen as a defect in the adaptive system. The adaptive, or integrative, system develops from the spontaneous use of innate responses to discraiminate stimuli.

It discriminates one stimulus from the other in quality, quantity and arrangement. The inhibitive system concurrently acts to interfere with extraneous stimuli, allowing the child to react differentially, protect himself and receive reinforcement. The balance between the excitatory-inhibitory processes is necessary for the individual to learn and perceive. Without this balance the child develops a "tactile" or motor defensiveness. This is seen later by the school as hyperactivity. As the child reacts indiscriminately and receives negative feedback his activity becomes more nondirected and unorganized. This motor defensiveness, while often occurring with learning problems, is also seen separately.

Acknowledging that inhibition exists, the question becomes can we develop and train this neurological function to work more effectively within the adaptive processes, and if so, how?

Excellent motor development and discriminatory programs are offered at the elementary level that are aimed toward both development and remediation. Foremost of these is the Ebersole-Kephart program found in Steps to Achievement. Inhibitory training is an attempt to supplement and balance such programs by adding the dimension of inhibition.

Many children respond to drug therapy and have no further difficulties. Others have developed inhibition so poorly before the drug therapy that there are gaps in sequential development which need training. Since inhibition encompasses both simple and complex responses and is an integral part of the development of all learning skills, it is possible that training might be needed in one or more selected areas.

The inhibitory training program, then, is needed to follow the natural development of the child and also to remediate deficits that have developed. Although hyperactivity appears to be multi-etiological, it chronically shows the imbalance of the excitatory and inhibitory processes.

Since training is not done under laboratory conditions, but rather in classrooms and gymnasiums, we will be dealing with varieties of children, varying intensities of motor driveness, as well as varying dispositions and manageability. There will be problems in the consistency with which the training is followed and the utilization of the training to transfer the learning to the classroom.

The training has positive psychological implications. First, it is a positive tool to give the teacher so that she may view the hyperactivity as manageable motor defensiveness to be trained rather than as disobedience and disruption. Second, it presents a positive outlook for the child who can set goals for himself in terms of management. Third, it is a practical tool that encourages "precision" thinking in terms of the child's real--not fancied--behavior. Fourth, it is an activity that can be shared by all the children since it follows natural development and draws from established physical education activities. Fifth, the exercises can be transferred to the classroom so the teacher can use them for classroom management.

Inhibitory training has been used under the guise of concentration and developmental exercises. Since it enters into all of our functioning it is an integral part of children's training at all times. The program presented here has been used with individuals in a private clinic and with classes of children in a learning disability program. It has been used as a supplement to group therapy with acting-out boys. It has been used in the regular classrooms with youngsters who have motor and achievement difficulties. Success has been greatest where the group or individual received the most attention and where the enthusiasm and consistency of the teacher was the greatest. It has not been subjected to controlled study because of difficulties of finding like groups and teachers and because of the multiplicity of the training.

It has been well received and many requests have been made for demonstrations and assistance in beginning the program.

The program follows the general structure of the Visuomotor Complex desribed by Getman in Learning Disorders, Vol. 1. Following this pattern the exercises go from simple to more complex tasks in quantity and differentiation. They then integrate with the special skills of association, memory, constancy, figure-ground, sequencing, and automatic closure.

An illustrated film can be made available to accompany the presentation.

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INHIBITORY TRAINING EXERCISES

Preface

The exercises presented here are part of a philosophy of teaching--that of teaching for control and the ability to stop motor activity at will. It incorporates as part of the children's activities training in stopping, controlling, sequencing their motor activities. It is not intended to be an exhaustive list of all the ways inhibition can be trained but rather a basic list which the teacher uses to set the tone and positive attitude of accomplishment. It is expected that the children will also be receiving training from a good basic motor development program.

Basic to the philosophy is the concept that children differ in the area and level of lowered inhibiton. Thus the teacher is urged to be specific in her observations so that she may train children in the specific area or level needed. It is taken for granted that the best of reinforcement techniques will be utilized with the teacher giving positive reinforce for desired behavior and shaping undesired behavior by not reinforcing it. It will be necessary also for the teacher to interpret the program to a youngster who needs the training--setting up control of motor activity and "stopping power" as a goal that can be met, that is desired and approved.

The program also recognizes the difficulties that hyperactive children experience with transitional periods when they must deal with unstructured or self-str ured time and space. Thus, it gives teachers suggestions for getting the children from place to place and from group to group and for utilizing this time for training.

Suggested time reserved for these activities is about fifteen minutes a day or else the activities may be incorporated into the daily program of established routine. If the latter is used alone then the teacher must be sure to choose exercises that are not too generalized for the needs of particular hyperactive children she wishes to help.

Inhibitory training has been developed for fine motor activities as well as language and auditory activities, broken into discrete parts and covered in another paper, but available upon request as it is revised and used in the classroom.

Innate Response System
Tinic Neck Response

Simple Exercise:

**The teacher directs the pupils to lie on the floor tummy down and play "Turtle". The "turtles" look around, sideward up, down. They stretch their necks as far as possible. Then the teacher asks them to explore how a turtle puts himself back into his shell. Repeat the exercise. Neck exercises are used first then arms and legs are included. The teacher tell them to go into their shell when touched, then she walks the rooms touching the turtles at random giving those youngsters who need extra attention extra practice.

Variations increasing in complexity:

**The "turtles" stretch their necks until the teacher sounds a tambourine then they hide in their shells.

**One child is appointed to be a "frog" who will touch the turtles and make them go into their shells. When a child is touched he becomes a frog. Children are instructed to only touch a turtle that is not moving.

**Music is added to the game and turtles walk very slowly and pull into their shells when the music stops.

**"Ostrich tag" is played by having the child that is tagged put his head down on the floor and hide his eyes. The last child tagged goes and taps the other children so that they may get up and resume the game.

**The "turtles" pretend to swim, tummy down on the mats, stretching their necks as they go. Upon command of the teacher they climb on rocks. When the last one is on the "rock"--or off the mat, the teacher then repeats the "swimming", stopping them at random to get on the "rocks".

Carry-over exercises for the classroom:

**Children are asked to stretch their necks--up, down, sideward and to play "turtle". Sitting in their seats they draw into their shell. Younger children may have to put their heads on their desks. A "frog" is then chose to touch the quietest "turtle." The child who was "Frog" may then go to a line or to another activity. The child chosen gets to choose another "turtle" whom he thinks is the quietest. The teacher should make sure that the exercise is used for the purpose of developing tonic neck response and its inhibition and that it does not exclude too often a child who has difficulty sitting still. Thus she may want to vary the child initially chosen and she should praise those children who make an effort to control motor activity despite difficulty.

**Recess or playtime may end by using this exercise, asking the children to play turtle, walk back to their desks on all fours and get into their seats and into "shells."

Innate Response System
Reciprocal Response .

Simple Exercise:

**The children are given light weight balls or balloons which they are to keep up in the air and they catch and hold on signal.

**The children are paired off and are to bat a light weight ball with their closed fist to each other from a distance of about eight feet. The teacher asks them at intervals to move up a step and increase the tempo.

**The youngsters are paired off and place their hands together making a sawing motion. Then they place feet together also and walk, one walking backwards.

**Children form a circle and do a waltz motion putting their left foot to the right-hand side and bringing the right foot up. A side step motion should also be establi hed. The teacher should call out stop and the children are to freeze in position.

Variations increasing in complexity:

**Children stand in a circle and play "Hot Potato" passing the ball one to the other until the teacher calls out "Hot Potato" and that child steps in the middle of the circle. The teacher should make an effort to give the children who need the most practice that opportunity when possible.

**Children are to stand in a circle. They are to bat the ball from one to the other as it goes around the circle. The teacher calls "stop" and the ball must be thrown to the teacher or leader.

**One child faces the other children who are on a line. He "fakes" throwing the ball to them and if they move he does not throw it but rather throws it to some one else, calling out the name of the child to whom he is going to throw the ball.

**The children stand in a circle and the teacher throws the ball to each one in rotation. Upon calling "Ditch it" the child does not hit it but lets it drop. The teacher should avoid setting up penalties for games that are too difficult for the children to handle since self-competition is much more desirable, and it is important both that the child who needs the practice get it and that the other children have fun.

**Children pretend that they are airplanes, spreading out their hands and dipping left and right as the teacher calls out "Left","Right", "Turn" etc. When the teacher calls out "Land" the"planes" should land immediately. Last one to land sits out the next round.

**Children should pair off to walk facing each other in a circle. A song such as "See-saw Marjorie Daw" may be used. The teacher may instruct them to reverse at the end of the song. Anyone breaking hands or falling down goes into the middle of the circle.
The teacher can play a record stopping it at random and varying the instructions as to stopping or reverse directions as the music stops.

**Polka steps may be used with the older children setting space limits for stopping, signals such as clapping, stopping the music. Directions for switching partners requires inhibition of movement if worked out properly.

Innate Response System
Reciprocal Response

Carry-over exercise for classroom use:

**Children sit in desks in rows--or chairs in rows. They are asked to pretend that they are trains and that their arms are the guides for the wheels. The train starts slowly, "Chug-chug-chug-chug" and increases or decreases as the teacher varies the tempo. When she directs the train stops. This may also be used as a marching technique. Encourage the children to "stop the train" without breaking the continuity of the train. As the game is repeated the children may take turns being the conductor or engineer. They may stop the train by saying such things as "There's a cow", "Railroad crossing" "Car on the tracks".

"Trains" may be made up to get children in or out of their seats, with one child being the leader and picking up passengers and/or train members as he lines up at the door. The teacher may command the train to stop at intervals as children are added to the train.

**Light-weight balls may be used in the classroom with all of the children seated in their usual places. The ball may be batted upwards lightly by the children and then caught upon the teacher's command. Care should be taken to include most frequently the child whose ability to control you wish to strengthen.

**"Hot Potato" is always a welcome game and can be played in the classroom with children seated at their usual places. Mechanical toy potatoes, complete with a bell that rings are now available. The hyperactive child is often the one who is not as successful socially and non-punitive games increase his participation and success experiences.

**

Mechanics of Movements

Simple exercises:

**Total Movement--the children are asked to lie on their backs on mats and kick, move their arms and legs any way they like but to lie in one spot. When they have done this they are asked to do the same thing again but this time move their arms and legs in unison, that is bi-laterally. Then the children are asked to turn on their stomachs and do the same thing, pretending that they are "dog-paddling". When they have explored this motion play "Columbus" who swims until he sights land--or the teacher calls out "Land". Then they stop.

**Alternating laterality--the children pretend to swim by alternating movements. The teacher may set up a signal at which time the child climbs off the mat. As the child progresses, time limits for getting off the mat should be decreased. Signals may be such things as "Out of the water here comes a wave". The penalty may be being "drowned".

Variations increasing in complexity

**Children may lie on their backs making constant motion

Innate Response System
Mechanics of Movement

(Continued) Variations increasing in complexity:
and a ball may be tossed to them so that they may try to catch it. More than one ball may be used to increase the number of times that each child stops his motion. Paper balls wadded from scrap may be used if light weight balls are not available.

**The children may pretend they are swimming when a "boat" comes by and they must "duck". They then lie flat on the mat. The teacher may call out "boat" at random.

Carry-over exercises for classroom use:

**Children may pretend that they are rowing a boat. Leave their feet free so that they may swing their feet as their hands row. The teacher may call out "Submarine" and the children stop the rowing and put their heads down on their desks.

**Children may pretend that they are riding a roller coaster and that they are to go up a hill or crouch down low on command. Children are in seats and the teacher tells them when the high hills come. It is suggested that the teacher have slow calming commands at the end of the ride with the end the children with their heads on their desks or sitting securely in place.

Grasp

Simple exercises:

**A rope is given to the group and all the children hold it with both hands. They stand in a circle and on command drop the rope. If all drop it at one time the rope should form a circle.

**Plastic balls on strings may be swung until command to throw is given. "Wind-up" of any ball in the manner of a pitcher may be used with throwing only completed on signal.

**"A tisket-a tasket" is still a fun game and may be used developmentally if children do not prolong the game too much and the developmental features of stopping and starting are emphasized. (This makes use of more complex skills; however, it is included here because of it's familiarity)

Variations increasing in complexity:

**Grasping in slow motion should be explored with the children. Shadows can be utilized to show them what their muscles are doing.

Relay games may be used to increase reaction time in grasping. An added feature may be a signal-a whistle- that stops the runners immediately. The teacher should stop the relay, especially when those who need the practice in inhibition are performing. But penalties should be within the developmental level of the group, such as repeating a lap, or going back to the original place where the whistle blew, so that the child does not resent being stopped but rather sees it as part of the game.

**Relays of handing a ball or other object down the line are good developmental games. Try varying the speed of the handing with the ideas of slow motion and fast motion of a camera.

**Tie a ribbon on a long rope and hand the rope around a circle of children, much as in "Hot Potato". The person who is caught with the ribbon when the teacher signals to stop steps to the middle of the circle for one turn.

**Ask the children to try to pick up various objects without bending their fingers. Collect school room items both large and small

Innate Response System Grasp	Variations increasing in complexity:
(Continued)	such as erasers, chalk, books, toys to be put in a container or pile. Develop teams to do this if the group is large so that the children do not have to wait to take part. Give attention to those that you feel need the extra time.
	**Patterns of bouncing and catching the ball can be worked out with increasing complexity. Classrooms that do not have balls enough may use paper balls made from scrap paper and have the children throw the paper into the air above them then catch, throw again, batting the paper this time then catch, etc.
	Carry-over exercises for the class-room:
	**Seated relay games of passing objects utilize grasping response on demand. Rules may be varied to help the teacher control the hyperactive youngster. An example of this is if youngsters are placed in rows and the relay object is started at the front the last child in the row receiving the object may bring it to the front and then go to line up to go outside or lunch or whatever the schedule calls for. Interest in the game helps keep the youngsters organized, for social activities also.
	**Sitting versions of "Pass it on" can be used in the classroom that utilize grasping and quick thinking. For variation the children may be required to take the object with one hand and hand it with another hand. They can be required to use only one hand and place the other behind their back.
	**
Stato-Kinetic Response	Simple exercise:
	**The children are allowed to run at random and are told to " freeze" when the teacher calls out, "Freeze". Do not penalize those who cannot stop on command but call attention to what they must do. Praise those children who were able to stop immediately.
	**Lying on mats left the children explore the space of their mat including the air space as far as they can reach. Then repeat the exercise, calling out "Freeze" at which time they are to stay in whatever position they found themselves.
	**Tell the children that you are going to use this technique any time and that to say "Freeze" means stop in the position they find themselves. This may be used randomly throughout the lesson. Encourage those children who have difficulty to increase their response.
	Variations increasing in complexity:
	**"Stop tag" where the children must stop in position when touched by the child who is "It".
	**"Stoop tag" where the child cannot be tagged if he stoops when he is being chased. Care must be taken that all the children are involved in this game since it reinforces equally the child who gets tagged and the child that doesn't. Many hyperactive childrern like to get tagged thus they don't inhibit their running. Limiting the number of times a child can be tagged often helps this situation.
	**"Statue" is played by one child swinging the other to the ground where he must lie without moving. The child chooses another child to swing the "statue's" but those who move cannot be chosen.

Innate Response System
Stato-kinetic

Carry-over exercises for the classroom:

**"Mother May I" is an old game that can be used to develop inhibition since the child may be sent back to the starting line for moving. This technique of directions such as "two baby steps", "two scissors steps", "two hops", etc. may also be used to get groups from one place to the other. If a large group is present then the children may be allowed to go in two's and three's.

**Establishing "Freeze" as a signal for stopping both motor and verbal activity gives the teacher a tool that is practical for every day occurrences where she needs total attention. Care must be taken not to reinforce poor or inappropriate behavior through undue attention. Rather extinquishing unwanted behavior depends upon rewarding the progress of the child who has difficulty.

General Motor System
Jumping

Simple exercise:

**Children are to pretend they are kangaroos. Jumping is done with both feet together and arms free. Upon signal they are to run for the "bush", which is a designated section of the room.

**Simple dances can be used for jumping exercises. Songs such as "I Saw a bird who went hop, hop, hop. I called to it to stop, stop, stop. He nodded his head as he flew away, I said to him, come again some other day. Hop, hop, hop. Stop, Stop, stop. Hop, hop, hop. Stop, stop, stop". The children jump with both feet together on <u>hop</u> and stand still on <u>stop</u>.

**Construction paper "stones" may be put down along a line and the children jump on the line (working toward keeping both feet together) but on the "stones" they pause, putting both feet apart in walking position. It may be necessary to space the children in line so that they do not run into one another.

Variations with increasing complexity:

**Training of the motor system area of jumping means learning to control the body in terms of space, size and ease. Generally the arms should be free to move as the child needs them. The teacher may set up a "sidewalk" for the children to jump on. As they progress the "sidewalk", made from chalk, may be decreased in size. Curves and corners may be added as the children's proficiency increases.

**Jumping relay races with the "jumper" penalized if he falls down or breaks his sequence of jumps are fun for all of the youngsters. The teacher may add "Freeze" orders at random.

**Types of hop-scotch utilize inhibitory process. The teacher may draw hop-scotch patterns on the floor with chalk, making sure that there are enough patterns that the children do not have to wait too long for their turn. Boys who are used to this being a girl's game might be interested in an Olympic-size hop-scotch that goes across one side of the room. One way of encouraging more participation is to reverse the scoring method usually used and begin with "10". This way the lesser developed children still get to jump long jumps.

Carry-over exercises for the classroom:

**Stones made of construction paper may be taped to the floor

General Motor System

Jumping

(Continued) Carry-over exercises for the classroom:

securely so that they will not slip, or areas may be made of masking tape. The game is to only jump to the stones and not to fall into the "river".

**The teacher can make up cards with the works jump, run, skip, hop, on them. As the children are to move from one place to the other she may hold up a card and say a child's name. The child then comes into place following the directions from the card. As the children progress she may hold up a card and then switch cards in the middle of the task so that the child must use another form of movement.

Crawling

Simple exercise:

**The children are told to play "Opossum" crawling on all fours and then playing "dead" when the light is switched on.

**The children are to play they are elephants in a parade following one another. They are to stop on command. Since crawling involves cross-lateral motion watch for children who have difficulty with smooth motion, so that extra attention may be given.

Variations with increasing complexity:

**Band music may be added which is stopped periodically and the "parade" of "elephants" must stop. The parade may turn, vary its speed and path. Curves are less difficult than turns; different children may have different difficulties with left, right, sequencing. This should not be underestimated in importance; notations should be kept of children who cannot manage the exercise as it becomes more difficult.

**Children may play "horse" with one child being the horse and the other child giving directions by way of a small jump rope that has been put around the "horse's waist. The children should exchange places upon direction from the teacher.

Carry-over exercises for the classroom:

**"Parades" may take place in the classroom with band music accompanying them. Upon a signal from the teacher the parade should pass each seat in turn so that the children can go to their desks. At each seat the "parade" stops briefly. As a variation the teacher can call out a name and allow that child called to go to the head of the line and be leader. Since crawling is tiring to some children the game can be limited to short periods.

Running

Simple exercises:

**The children are allowed to run in random pattern but without touching one another. Those who touch someone else must sit at the side. They get up and into the game however as someone else touches and has to go to the side.

**The children are lined at one end of the gym and told to run to the other end catching themselves at the wall. They return to the line and then are told to stop so that their fingers barely touch the wall. Later a line may be added, chalk line as a guide.

**The children run at random until the teacher calls "Freeze".

Variations increasing in complexity:

**Lines may be placed before the wall and the children are to stop when they come to the line. Limits of "out of bounds" may be set.

**Chicken and the Fox" may be played with the "chickens" gathering around the mother "hen". The Fox tries to get one of the thickens to move by teasing it or faking attack but he can only

General Motor Systems.
Running

(Continued) Variations increasing in complexity:
"catch" a chicken if it moves or if the mother hen gives the signal to run. Chickens who are caught become Foxes.
**Races and relays may utilize both running skill development and stopping process by the teacher so that the children view it as part of the task. Going off or over a base should be penalized.
**Running in place or in small spaces both backward and forward utilizes control and balance.
**Basketball in various forms and rotation of basket shooting utilizes the child's ability to stop and go at will. If children are too young for formal basketball variations of throwing the ball into a special area or against the wall may be used, keeping in mind that he is to learn to stop while running either to receive or to throw the ball.
Carry-over exercises for classroom use:
**Care must be taken for children's safety when they run in the classroom. This is particularly true for the youngster who has lowered spatial judgement and easily bumps into things. A traditional children's game is "Red Light" where a leader is picked and the children line up at one end of the room. The goal is to get to the other end of the room but to move only when the leader says "Green Light". The children must stop immediately when the leader calls "Red Light". Any youngster who does not stop immediately must go back to the starting line.
**For a small group, the children may be paired off, one to be the horse and one to be the driver. They are given a small rope. The driver gives direction to the "horse" stopping and starting frequently.

Walking

**Simple exercises:
**The children are to walk around the outside of the gym accompanied by music. Upon a signal from the teacher they are to sit down where they are.
**The children may walk in a random pattern with their arms out but making sure they do not touch each other. On a signal from the teacher they are to run to the side of the gym and sit down. The first one at the side of the gym gets to call the stopping signal for the next time.
Variations increasing in complexity:
**The children are to walk two by two making sure that they are in step. The teacher may call cadence. There are a number of folklore cadence songs such as "Left, left, left my wife and 48 kids."
**Children are taught to walk backwards upon command. Walking two by two, or a long line sidewards arm in arm is fun. It also helps the youngster whose organization of motor activity is lowered to react with the other children.
**Walking races and relays utilize basic skills and may be varied by commands to reverse the walking or to "Freeze".
Carry-over exercises for the classroom:
**Walking can be used to demonstrate moods, happy, sad, silly, like a baby, and like an old man. Inhibition skill may be utilized by switching mood or manner on command.
**"Strut, Miss Suzy", may be used to demonstrate types of

General Motor Systems

Walking

(Continued) Carry-over exercises for the classroom walking. The children line up facing their partners as for the Virginia Reel. The song goes: "Strut, Miss Suzy, Strut Miss Suzy, Strut Miss Suzy all the way home". During which time one child at the end walks to the other end of the line pretending to walk in some special manner. The children sing "Here comes another one just like the other one, here comes another one all the way home". The child's partner tries to imitate the first child in manner and also goes to the head of his line. Variations may be used with a leader calling out the mood or manner that the child must walk.

**Walking and marching relieve tension in the classroom and may be used easily when it is not convenient to go outside. If a record player is not available rhythm sticks may be made easily of materials at hand. Inhibiting processes can be utilized by introducing commands that change or stop the walking.

**Walking in partnership or with a group necessitates control and many children find this difficult. Reverse commands where children must break hands and then rejoin them again help them practice organizing their motor activity.

Hopping

Simple Exercise:

**Children are asked to hop to the end of the room on their dominant foot, without stopping until they get to the end of the room. Since sustained hopping is difficult for many children they must be encouraged to lengthen the amount of time they can hold up one foot.

**Races in which the child must stay at the spot in which he lets his foot down encourage children to be aware of their own control. Construction paper "bases" may be given the children who place them where they stop. They then may go back and compete against themselves to see if they can go farther.

**"Hold tag" where the child who is "It" hops on one foot with the other foot held up with his hand, encourages hopping skills and quick changes when a child is tagged. A child who is "it" may be penalized for using both feet by forfeiting his time as "It".

Variations increasing in complexity:

**Circle hopscotch made with chalk on the floor consists of three circles marked off as "hopping squares". To get to "home" in the middle circle the child must successfully jump to first one square, then in the next turn jump to the first square and then hop to the second, the third turn takes him to the third square etc. About twenty hopping areas are usually made with none of the players progressing until he is successful in the past turn.

**Variations of running games may be used with hopping. Boys especially seems to need strengthening of the non-dominant side. Setting personal goals on charts increases their desire to compete against themselves and lengthen the time they can inhibit one side and focus the other.

**Human Checkers can be played in a simplified form when the "board" is reduced to contain only your group with one extra row for each team. One child is appointed referee and directs and judges the teams. Children may be penalized for getting off their own square or putting down both feet when they hop from square to square. This game is for older elementary children and must be kept brisk in pace to keep

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Hopping

(Continued) Variations of increasing complexity:
interest high. A variation of this is to let the children hop from square to square as long as they do not bump into another player. If anyone cannot jump and stays in one spot he is out of the game. Hopping is only done on signal from the leader.

Carry-over exercises for the classroom:

**Any activity such as lining-up for exit, coming to group sessions can be done hopping as well as walking. Giving children the structure of an acitivity precludes scattered and unorganized motion which characterized the hyperactive child. The motor coordination of most hyperactive children is in need of focus and training, plus giving directions in terms of what they are to do with their bodies while they make transitions often serves to inhibit the over-shooting of the amount of energy really needed to make that transition. The teacher should be reminded that the hyperactive child needs definite instructions about where he is to sit and what he is to do after the task is completed. It is not expected that he can handle himself the first time an instruction is introduced but self-control is set up as a standard for which he and the rest of the class should strive.

Skipping

Simple exercise:

**Control and rhythm are intrinsic in skipping it involves both hopping and running or walking. Inhibition may also be utilized by breaking into the cycle of hopping-running by calling "Freeze" by changing directions, by stopping the music and signalling halt, by limiting the space in which the children skip.

**Many children's records are adaptable for skipping exercises. It should be noted that boys appear to have more difficulty and resistance-with skipping. Variations of records and songs such as "Here we go round the Mulberry Bush" may include continued skipping while motion is carried out. This necessitates the stopping of the motion for a purpose intrinsic in the song.

**Songs familiar to the children such as "Pop goes the Weasel" include the inhibitory process as part of the action where all the children squat or fall at the word "Pop".

Variations increasing in complexity:

**Skipping tag is made difficult by the child's eagerness to either stay out of the way or else tag someone else. Breaking the rhythm of skipping may be penalized by making the child who does this sit out till another person is tagged.

**Tag may be played by changing the method upon command of the teacher. Introduction of holding the spot tagged with one hand livens the game.

**Skipping with a partner or in a line increases the control needed. Changing to hopping or walking on command may be introduced. A change of direction upon command without breaking the line helps children practice their organization of motor skills.

Carry-over exercises for the classroom:

**"Seven-up" is played by all the children but seven placing their heads on their desk and hiding their eyes. Each child who is up skips around the room touching only one child. When all seven children have touched a child the leader calls "Seven-up" and the children who have been touched try to guess which child touched him. If he guesses correctly he goes to the front of the room and takes the place of the child who was up.

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(Continued) Carry-over exercises for classroom use:

**"Carrying Coals to Newcastle" involves trying to think of delays for the children who are "going to Newcastle". The groups is separated into two groups at separate ends of the room. One group is to come to Newcastle at the other end od the room. They are to skip. The other groups rotates turns in giving directions to delay the group that is coming. "Pick flowers", "Take three steps backwards", "Wash your dishes" etc. If one of the travelers fails to follow directions he must go back to the starting line. The first one to the "Newcastle" area gets to be leader while the other group goes to "Newcastle".

**Like other motor activities skipping can be used in the classroom as a directed activity. Care should be used to utilize inhibitory processes in the games even if variations must be used. Positive encouragement such as "You can really stop yourself" should be used frequently. Unspoken approval when a youngster controls his body activity should be used as often as possible. Rewards in terms of school activities such as allowing a youngster to be first in line if he can walk to the line etc. should be used with youngster who often have experienced a great deal of criticism.

Special Motor Systems

Eye-hand Coordination

Simple exercises:

**The process catching a ball is interrupted by the command to "Freeze". The distance of the ball is decreased by the thrower and the commanded interruption is given at different levels of anticipation.

**The process of throwing a ball is slowed down as if on a slow motion camera with "cut" included a command.

**Light weight balls are used, two to a pair of children, and exchanged. Upon signal balls are allowed to drop.

Variations increasing in complexity:

**"Dodge Ball" played with light weight balls allows children to change their movements in relation to the anticipation ball. As in all activities the teacher must monitor the game to make sure that those needing the exercises partic[illegible] fully.

**Paired catch while the partidpants are moving helps them concentrate on the ball. Adding a stop command increases the difficulty of the game and utilizes inhibition processes.

**Difficulty of eye-hand use increases with space and time differential. Children who can stop at simple tasks cannot organize themselves quickly to stop at high speed games. The teacher should increase the level of the game slowly spotting the level at which some of her children need training. She may also want to find out what additional features--such as speed, sequencing, difficulty of performance --breaks down the child's ability to handle inhibition. She should also check over-stimulation as a factor since many children can handle themselves until after an exciting period has past. Competition sometimes is too stimulating for hyperactive youngster and they need to compete against their own ability rather than against the group.

Special Motor System
Eye-Hand Coordination

Carry-over exercises for the classroom:

**"Spoon races" with the children carrying an object, such as chalk in a spoon while they run utilize eye-hand skills. Adding "Freeze" and "Go" commands help them learn to control their motion.

**Almost all activities of everyday living include some kind of eye-hand motion. Games such as "jacks", pick-up sticks include some inhibition, and may be used profitably. Youngsters who have not yet accormplished control may resist using games where training may help them. In this case the teacher should drop back to a lower level of development till the child feels sucessful.

**Light weight bats and balls can often be found for the classroom use, and they are not harmful if they hit another child. Batting may be livened by giving the pitcher two balls of different colors. The child who is batting is only supposed to bat one color. If he bats the wrong color three times he must be the pitcher.

Hand Combinations

Simple exercises:

**Children are given jump ropes to circle the room. At various designated spots they are to stop before going on.

**Children are to keep balloons from touching the ground except on command of "Drop". If they cannot keep the balloon up or if they do not stop when commanded they stay out a turn.

**Games adapted from baseball utilize sequencing of activity and thus inhibition. Indoor games such as "Foursquare" where the child bats a light ball with his hand and proceeds from base to base helps him to concentrate and proceed from one activity to the other.

Variations increasing in complexity:

**"Skiprope tag" and Skiprope races may be used as inhibitory training with space carefully laid out to protect the youngsters. Children who have difficulty coordinating may be liable to tripping and the exercise should be used as the teacher sees fit.

**Games in which the chidren pretend they are airplanes with arms outspread, frogs-where a leaping motion is used may be used to vary the usual games of tag and racing. Sequencing skills on command of the teacher or leader helps the children practice changing from one activity to the other.

Carry-over exercises for the classroom:

**Marching activities in which the child also carries a rhythm instrument may be utilized with the child using the instrument on commands intrinsically such as "Go in and out the window" where the children stoop and rise as they go through the "windows" made by the other childrens circled arms, may be used to increase control of the motor activity.

**Grand marches in which the children make an arch for the other children may be varied with commands to step backward, sideward, skip etc. thus sequencing and inhibiting activity.