

The Virginia Journal



Virginia Association for
Health, Physical Education,
Recreation, and Dance

FALL 2015

Vol. 36, No. 2



Photo taken by Michael Moore

VAHPERD Members,

It is my pleasure to serve as the editor of The Virginia Journal (TVJ) and Communicator. Enclosed you will find the Fall 2015 issue. I hope to continue the successful publications of TVJ and Communicator.

However, the success of TVJ and the Communicator only go as far as the members and our submissions. I ask that you continue to submit the quality work you have in the past. Let the state, region and nation know the outstanding work we are doing in VAHPERD. So this is my continued call for manuscripts for the Spring 2016 issue of TVJ and news information for the Communicator. The TVJ and Communicator depend on the submissions from our exceptional professionals working in the field.

So please continue to e-mail me your manuscripts and news by January 15, 2016 as a Word attachment for the two publications. Please follow the manuscript guidelines posted in each issue of TVJ. My contact information is below.

Sincerely,

Michael Moore, PhD, ATC, Associate Professor, HHP

Clinical Coordinator, ATEP, Radford University

P.O.Box 6957, Radford, VA 24142

540-831-6218

mbmoore@radford.edu

www.radford.edu/mbmoore

About VAHPERD

Mission Statement

VAHPERD is a professional association of educators that advocate quality programs in health, physical education, recreation, dance and sport. The association seeks to facilitate the professional growth and educational practices and legislation that will impact the profession.

VAHPERD Values

- Excellence in teaching, research and educational practices in HPERD and related professions
- Positive efforts to promote our disciplines
- Professional integrity and high ethical standards
- Effective communication within and between members and related professionals
- An active and healthy lifestyle
- Embracing the role of special and diverse populations

VAHPERD Priorities

Member Services
Communication
Marketing and Promotion
Education

Visit VAHPERD's Web Site

www.vahperd.org

Learn About:

VAHPERD	Membership
Leadership	Publications
Divisions	Resources
Students	Links
Awards and Grants	Forms

**The Virginia Journal
Editorial Board**

Jamie Best
UNC Greensboro
Avita Health System

Leon Bey
Virginia State University

Robert Case
Old Dominion University

Rodney Gaines
Norfolk State University

Melissa Grim
Radford University

Charlotte Guynes
Lynchburg College

Jay Johnson
Virginia Military Institute

Billie Lepczyk
Virginia Tech

April Moore
Dublin Elementary

Kenny Harrah
Radford University

• • • • •
Michael Moore
Editor
Radford University

Henry Castelvechi
Executive Director

VAHPERD President
Fred Milbert

VAHPERD President-Elect
Chad Triolet

VAHPERD Past President
Regina Kirk



TABLE OF CONTENTS

Volume 36, Number 2

FALL 2015

President's Message 2

President-Elect's Message 2

Executive Director's Message 3

Connecting Health Education and Health Promotion through Community Outreach
to Bridge PreK-12 School Health Programs and Corresponding Communities..... 4

Self Dependence: The Self-Check Style of Teaching 8

Students with Schizophrenia in Recess..... 11

Scoliosis in teenagers and common treatment and intervention methods –
a systematic review of SportDiscus and AMED literature 13

Swimming in Adapted Physical Education: Guaranteed for many, but
offered by few 19

Guidelines for Manuscript Submission..... 22

The opinions of the contributors are their own and do not necessarily reflect the attitude or views of VAHPERD, its officers, or the editor of this Journal. VAHPERD does not discriminate in this or any other of its programs on the basis of color, religion, age, gender, national origin, sexual orientation, disability or handicap.

President's Message

Fred Milbert



Hello to all Health and Physical Education professionals,

The summer season has flown by once again taking us into fall and another exciting school year. It is my hope that you have experienced a great start to your new year. We all face many challenges during the summer and school year that are both personal and professional. I want you to know VAHPERD is here for you! Having a solid foundation of support through the relationships that I have experienced as a VAHPERD member has helped me to endure and continue moving forward personally and professionally. This is a member benefit that is not listed on the VAHPERD website, but is available when you are engaged and working with a great group of outstanding professionals.

I cannot encourage you enough! It is time to belong to these committed, enthusiastic, and engaging group of professionals. The efforts of these few will be experienced by every health and physical education professional over the course of this year and next. Right now is the time to learn more about us and explore the benefits and resources that are available.

The VAHPERD leadership has been very busy with new and exciting opportunities to provide resources and support to the teachers, parents, students and the community. We are very excited to have been a part of the projects that support the prevention of underage drinking on the college campuses and in our high schools. Visit the VAHPERD website www.vahperd.org and see the results of VAHPERD's collaboration with many partners to across the state to support the campaign against underage drinking. The grant work created radio and TV ads, billboard, and advertisements that have been visible across the state. I wish to express my sincere appreciation to Misti Wajciechowski, Vonnie Colvin, Tarin Hampton, Erima Fobbs, Vanessa, and our future professionals, Jessica Parker and RaQuaam Smith for their work on the "Collective Health Impact" grant. The work of these VAHPERD members has provided resources that are available for everyone in the state. We have an active video contest with five possible awards to be won by students and teachers. As a result of their work, teachers have health lessons easily accessible on the VAHPERD website.

Thank you to all of these adventurous staff! They have enabled VAHPERD leadership to see the value of engaging in grant opportunities to provide resources for our teachers.

I am very excited about the February 2016 Southern District Convention in Williamsburg. For the 2015-16 school year, we are hosting the Southern District SHAPE Conference in Williamsburg, February 10-13. In support of the Southern District Conference we will combine our regular VAHPERD conference meetings and activities normally held in November, into this conference event. Our annual *Board of Directors* meeting, General opening session and closing session with prizes and giveaways will occur during this convention. This is also the time that you will elect the new

continued on page 3

President-Elect's Message

Chad Triolet



Greeting VAHPERD members and colleagues:

I hope that you had a nice relaxing summer and are off to a fantastic new school year. The spring and summer months have been very busy for our organization. We had our annual "Budget" board meeting in April and the "Conference" board meeting in June. Throughout the spring and summer, VAHPERD took a leadership role in the "Parents that Host Lose the Most Campaign" which focused on underage drinking. Members of VAHPERD also met at the annual Virginia Summer Health and Physical Activity Institute at James Madison to plan for the Fall SOL Workshops. Many members of our Board of Directors also took time away from their summer to attend the SHAPE Southern District Leadership Development Conference (LDC) in Williamsburg in late July. The LDC was a great opportunity to get to connect with AHPERD leaders from other states, plan for the upcoming SHAPE Southern District Conference, and learn more about the direction of SHAPE SD and SHAPE America. We also had members of our organization supporting the Richmond 2015 - UCI Road World Championships in late September (check out these *bike safety lessons* that were created for the event).

One of the big responsibilities for the VAHPERD President-elect during the summer is to develop and share the updated *Strategic Plan* for VAHPERD. The Strategic Plan is an outline of the plans and initiatives that VAHPERD will focus on throughout the year. During the June board meeting, I also shared the theme for the 2016 VAHPERD Convention (November 2016 in Richmond, VA) which is "Be a Champion for a Healthy and Active Virginia!" I am hopeful that the Strategic Plan and the theme will serve as a springboard for the organization as we continue to move forward.

Being a Champion for a Healthy and Active Virginia starts with you! VAHPERD is in the beginning stages of developing a resource page on the website for members to support quality instruction. I would like to encourage any member who is willing to send me best practice lessons that meet the new 2015 Virginia Health and Physical Education Standards of Learning (ctriolet@gmail.com). This is a great opportunity to share your expertise and creativity with other VAHPERD members and provide them with valuable resources that they can use to promote healthy and active opportunities for all students in Virginia.

There many exciting opportunities for our members on the horizon, I hope you will join me in participating/supporting some of these events.

- In February 2016, VAHPERD will co-host the **2016 SHAPE Southern District Conference in Williamsburg, VA**. This is an awesome opportunity to showcase the amazing teaching

continued on page 3

Executive Director's Message

Henry Castelvechchi



Exciting things are happening within VAHPERD. The Membership Committee and I have read the feedback from the membership and we are working on new benefits and programs for VAHPERD members. Thank you to all the members who filled out our survey. Be on the lookout for these new items soon. Feel free to send us any suggestions for what you would like to see from VAHPERD or comment on current programs.

We are right around the corner from the SHAPE America Southern District Conference. I hope you are able to attend and can bring a colleague that you think would benefit from a great conference. This is a chance to see nationally recognized speakers without having to leave the state. The conference will be in beautiful Williamsburg, VA, February 10-13, 2016. Be sure to check out the VAHPERD website for more details.

Even though we are not having a state convention until 2016 November, it is almost time to submit presentation proposals. Be on the lookout for an email about a call for submitting a proposal. We are always looking for new presenters. Please consider presenting by yourself or with a friend.

Thank You for your continues support of VAHPERD. Please continue to send your feedback so we can make this the best association for you.

Henry Castelvechchi
Executive Director

President-Elect's Message

continued from page 2

talent in our state. Since we are co-hosting, we need lots of VAHPERD volunteers. If you are interested in volunteering, contact Regina Kirk (kirkvahperd@gmail.com).

- The SHAPE National Convention will take place April 5-9, 2016 in Minneapolis, MN. For more information about the conference, visit - www.shapeamerica.org/events/convention2016/.

Please know that your membership in VAHPERD is valued and appreciated. If you have any questions or need assistance, please feel free to contact me (ctriolet@gmail.com). I look forward to working with you and for you!

Chad Triolet
Be a Champion for YOUR Profession
(advocate, educate, encourage, and empower)

President's Message *continued from page 2*

President-Elect and other vice president positions for the VAHPERD leadership. Remember, all of our candidates are voted on and elected by the membership, so check the VAHPERD website for information about the candidates.

For the VAHPERD opening session on Friday, February 12, I am very excited to announce that we have Maria Corte as our key note speaker for this session. Maria teachers at Mesa High School in in Arizona and has been a presenter at the JMU Health and Physical Activity Institute. The opportunity for our professionals to experience her enthusiasm, energy and passion for teaching is sponsored by GOPHER. We are appreciative of their support in bringing Maria to Williamsburg.

SHOULD VAHPERD change the name of the organization? If so, what should it be? This is one of many questions and challenges facing our professional organization over the next few months. We will review results of a membership survey and communicate with all of our members and professionals the results of research and discussions to involve all members in a final decision.

Our legislative committee will be organizing this fall to increase our presence and efforts to provide information and possible direction to our state legislators that supports our efforts to provide quality and meaningful health and physical education. We are planning another Speak Out Day in Richmond in February 2016. We need you to join us. Please take time to consider your level of support to join VAHERD in this effort.

In closing, this is a list of some of the opportunities and challenges that VAHPERD will be considering over the next year.

- The selection of a Convention Manager;
- Selection of someone with the technology skills and knowledge to carry on as our Webmaster;
- The Legislative Committee is organizing activities and members to engage in our second Speak Out Day in Richmond in February 2016;
- Consideration of a name change for VAHPERD – How do we represent our professionals in Virginia;
- Elections for the new Board members and President-Elect will take place as a part of the February SD conference as stated in our By-Laws. We have a candidate for every position and 2 candidates for President-Elect.

Thank you for your support of my term as President of VAHPERD. This has been an honor that has helped me grow as a person and as a professional. In my short time serving, I have realized that many people make it possible for me to have been a health and physical educator for the past 40 years. I will be one of those people to help you continue as a professional in your future.

I hope to see you at the Conference in February.

Fred Milbert
President, VAHPERD

Connecting Health Education and Health Promotion through Community Outreach to Bridge PreK-12 School Health Programs and Corresponding Communities

Michael S. Mucedola, Ph.D., M.S.T., MCHES, *Health and Physical Education Graduate Program Coordinator*, Longwood University in Farmville, VA

Introduction

School and community based health education continue to be valuable assets to curbing the leading causes of morbidity and mortality in the United States. Chronic diseases and conditions (cardiovascular disease, cancer, obesity, arthritis, etc.) are mostly preventable and as of 2012, approximately half of all adults (117 million people) experienced one or more of them (Center for Disease Control and Prevention (CDC), 2015). In addition, these diseases and conditions are the most costly. In the U.S. in 2010, heart disease and strokes cost over \$315 billion, cancer \$157 billion, diabetes \$245 billion, and including chronic conditions and economic costs, the sum sky rockets over one trillion dollars (CDC, 2015).

Unhealthy behaviors related to diet, physical inactivity, and toxin consumption are not only preventable and cost the nation a significant sum in direct and indirect health care costs, but play a key role in determining if an individual will develop chronic diseases and other related health problems (American Cancer Society, 2015; Campbell & Campbell, 2006; Carlsona, Fultona, Pratta, Yangb, & Adams, 2015). Individuals of all ages need knowledge, skills, and resources necessary to make informed decisions and sustain health enhancing behaviors. Health education efforts in schools and communities provide a forum to obtain these vital tools.

Overview

Health education is a preventative approach, covers a vast amount of health topics and centers on cognitive, skill and affective objectives. One goal is to change unhealthy behavior and sustain healthy ones in order for an individual to live a long, high quality life. Many resources are available for a health education specialist as they strive to meet or exceed the objectives they set forth. This article provides a brief overview of prominent health education and health promotion models, an outline of the Responsibilities and Competencies (R's & C's) of a health education specialist and examines the role of Healthy People (HP) 2020.

The World Health Organization (WHO) (2015a) defines health education as any combination of learning experiences aimed at assisting individuals and communities to improve their health, by providing knowledge and affecting attitudes. Health promotion is the process of enabling people to improve their health, and stretches beyond individual behavior to encompass areas such as social and environmental interventions (WHO, 2015b). Community outreach is a catalysis that can bring these fields together and the PreK-12 school system and corresponding communities provide optimal environments for this harmonization to occur. Health education and health promotion are at times treated as separate entities and the same can be said of the setting in which these ensue. The PreK-12 school system is one common forum

for health education and health promotion, while the surrounding communities are often treated as a separate environments for these to transpire. One aim of this article is to discuss ways to bridge these fields through the utilization of community outreach.

Models for Health Education and Health Promotion

There are several models a health educator can utilize when designing health education and promotion programs and one frequently being the PRECEDE/PROCEED model. Developed in the early 1970's by Lawrence Green, "PRECEDE" represents predisposing, reinforcing, and enabling constructs in educational/environmental diagnosis and evaluation; while PROCEED (added in the 1980's) stands for policy, regulatory, and organizational constructs in educational and environmental development (Green & Kreuter, 2005). The model consists of eight phases and works backward then forward to assess quality of life (QOL). Health issues affecting QOL are determined, following by behaviors and environment contributing to the health alignments (McKenzie, Neiger, & Thackeray, 2012). Phase three examines predisposing (attitudes, knowledge, etc.), reinforcing (parents, community members, etc.), and enabling (availability, accessibility, etc.) factors influencing behavior and environment. Phase four is a health education program to address phases 1-3 and consists of educational strategies and policies. Phase five entails program implementation while the 6-8 evaluation phases make up PROCEED to determine effectiveness throughout (McKenzie, et. al., 2012).

In the early 1990's, Martin Kreuter (Director of the Division of Chronic Disease Control and Community Intervention) incorporated the PRECEDE portion into the CDC Planning Approach to Community Health (PATCH) model. PATCH was developed in 1983 by the CDC collaborating with local and state health departments and community groups. Application of the model ranged from a variety of health topics including cardiovascular disease and access to health care, with a focus on community-based process that synthesized health education, health promotion, and community development knowledge and theories structured with PRECEDE (Kreuter, 1992). PATCH operates under the following key elements: active participation by community members, program development based on data, collaboration to develop a comprehensive health promotion strategy, feedback and program improvement are emphasized during evaluation, and the community capacity for health promotion is enhanced (McKenzie, et. al., 2012). Utilization of these keys elements are conducted in five phases starting with mobilizing the community to data collection and organization. In phase three health priorities are established, followed by a comprehensive intervention plan, and phase five evaluation.

The Community Health Improvement Process (CHIP) was first developed in 1997 as a framework toward building community

health. It starts with problem identification and prioritization by forming a coalition to address community health and QOL, comparing and analyzing community profiles, and identifying critical issues (Durch, Bailey, & Stoto, 1997). Once a problem area has been identified, an assessment is conducted to ascertain community needs and decide where resources and personnel should be employed (Issel, 2014). An analysis is conducted in the second part of the model, followed by resource inventory and developing strategy. Next a team identifies accountability, develops performance indicators, implement strategy, and monitor process and outcomes. Benefits of CHIP are it utilizes a community perspective, inclusivity, comprehensive approach, and is an ongoing process (Issel, 2014).

The Multilevel Approach to Community Health (MATCH) was developed in the 1980's to provide more focus to PRECEDE/PROCEED (Simons-Morton, Simons-Morton, Parcel, & Bunker, 1988). The model emphasizes program implementation and consists of five phases each with multiple steps. Phase one involves goal selection (health-status, priority populations, etc.) followed by intervention planning (targets, objectives, etc.) (McKenzie, et. al., 2012). Phase three entails program development (curricula and intervention guides, instructional materials, etc.) while phase four consists of implementation preparations (McKenzie, et. al., 2012). Phase five concludes with evaluation. The model is useful after identification of behavioral and environmental factors and establishment of an action plan (Simons-Morton, et. al., 1988).

The Community Readiness Model (CRM) developed in the late 90's identifies nine stages of readiness through which communities develop (Tri-Ethnic Center, 2011). Readiness is determined by the higher stage of development and assessment of readiness is done for six dimensions. The nine stages include community tolerance/no awareness, denial/resistance, vague awareness, preplanning, preparation, initiation, stabilization, confirmation/expansion, and high level of community ownership (Edwards, Jumper-Thurman, Plested, Oetting & Swanson, 2000). The CRM stages outline characteristics of communities and strategies for readiness. These include efforts, community knowledge of efforts, leadership, community climate, community knowledge of the issue, and resources (Edwards, et. al., 2000). Dimension readiness is assessed on a 1 to 9 scale and strategies are developed based off this. To ensure a well-represented sample, multiple interviews are conducted with respondents in the community.

Mobilizing for Action through Planning and Partnerships (MAPP) was developed by the National Association of County and City Health Officials (NACCHO) in the late 90's as a strategic approach to community health. There are six MAPP phases, starting with organizing the planning process and developing partnerships, to vision and value statements, followed by four assessments (community themes/strengths, local public health assessments, community health status, and forces of change) (NACCHO, 2015). Phase four deals with strategic issues from a prioritized list off the prior assessment, followed by goals and strategies during phase five and ending with the action cycle. MAPP focuses on creating a healthy community and improving QOL. By engaging the community and creating community ownership the model can be used to match needs, resources, ideas, and actions throughout the community (NACCHO, 2015).

Responsibilities and Competencies of a Health Education Specialist

In the late 1970's, the process to establish the role of a health educator began and the National Task Force on the Preparation and Practice of Health Educators (NTFPPE) was formed. Many areas were examined, but the main objective was to develop a comprehensive credentialing system for the health education profession. The Role Delineation Project (RDP) was started, the roles of a health educator were outlined, and subsequently published in 1985 under the title "A Framework for the Development of Competency-Based Curricula for Entry-Level Health Educators" (NTFPPE, 1985). Through the RDP, specific areas of responsibility, competencies, and sub-competencies for the entry level health educator were created. In 1988, the National Commission for Health Education Credentialing (NCHEC) replaced the National Task Force as a nonprofit organization with a mission to improve health education by promoting and sustaining a credentialed body of health education specialists (HES). This is done through certification and promotion of professional development with a focus on preparation and practice. There are currently seven areas of responsibility each with their own comprehensive set of competencies and sub-competencies outlining the role of a HES.

The first area of responsibility assesses needs, resources and capacity for health education and promotion ranging from planning assessment strategies to determining needs. Area two focuses on planning and promotion and involves stakeholders in the process. Area three focuses on implementation and area four pertains to evaluation and research. Area five focuses on administration and management while area six centers around serving as a resource person in the field. Area seven involves communication, promotion, and advocacy efforts for health and the field. An individual may become a Certified Health Education Specialist (CHES) by passing a competency-based examination on the R's & C's. An individual is eligible for the exam if they have a degree from an accredited institution in health education or related field or least 25 semester hours of coursework addressing the R's & C's. Retaining the certification requires yearly dues and completing 75 approved continuing education contact hours every five years, at which time an individual is eligible to sit for the Master's (MCHES) exam.

Healthy People 2020

The U.S. Department of Human Services (HHS) (2015a) provides ten year health goals and objectives for all Americans under its "Healthy People" initiative with a focus on disease prevention. For three decades these national objectives have helped establish monitored benchmarks to assess progress. In addition, HP aims to encourage collaboration across communities, empower individuals, and evaluate prevention efforts (HHS, 2015a). The current HP 2020 vision is for all people to live long, healthy lives. In addition, some overarching goals are to eliminate health disparities and improve QOL across all life stages (HHS, 2015a).

HP 2020 covers 42 topic areas (ranging from chronic diseases to nutrition and physical activity) with over 1,200 objectives. Progress reports are released frequently outlining the "Leading Health Indicators". These indicators are used to assess the health of the nation, initiate collaboration, and enact change at all levels to improve health in the U.S. Using current technology,

the program maintains an interactive website for collaboration and dissemination of materials, data, and resources. For each of the 1,200 plus objectives, there is a separate reliable data source, baseline measure, and target for improvement to be met at the end of each ten year initiative (HHS, 2015b). These objectives were developed by experts from leading federal agencies and presented to the public for feedback. Most objectives are geared toward interventions to reduce or eliminate illness, disability, and premature death among individuals and communities with broader objectives such as eliminating health disparities (HHS, 2015b).

Community Outreach

Community outreach in this context refers to strategies to target a community to address specific health related issues. Health education in the PreK-12 school system provides an excellent forum to enact health promotion in the corresponding communities through the use of community outreach. This comes in various forms but a health education specialist is uniquely trained to steer the ship when coordinating this approach. Activities designed by a health education specialist to produce materials and products with students in the classroom while learning content and practicing skills, can then be disseminated out in local communities. For example, during a chronic diseases unit, students can create brochures with prevention strategies, signs/symptoms, local resources, etc. These can be passed out in the local community or taken home to family members. Having student's interview friends, family, or community members to answer a few short questions helps to determine if the recipients read and understand the brochure and allows for the teacher to assess that students disseminated the material.

This same approach can be used for all 42 health topics outlined by HP 2020, which can be taught in the classroom and dispersed in communities. Differentiating the activities (posters, pamphlets, research products, etc.) is crucial. In addition, differentiating the community outreach approach is essential. Having the students gather information, conduct mini needs assessments, locate local resources and assets in local communities are a few ways to go about this. The R's & C's of a health education specialist can be used as a guide for students as well and allows them to take the reins as they are now the disseminators of information and bridging the gap between the classroom and corresponding communities. Under this approach, the concept behind community outreach allows for learning to take place outside the classroom while concurrently addressing health needs in local communities. The community outreach component links not only health education and health promotion, but the PreK-12 school based system and corresponding community environments in which they occur.

Conclusion

Chronic diseases and conditions continue to be the leading causes of morbidity and mortality in the U.S. and have economic repercussions (CDC, 2015). Therefore, targeting the main risk factors (diet, physical inactivity, and tobacco use) associated with these conditions is justified. School based health education is a preventative approach to curbing health related conditions. Corresponding communities are another environment where these health conditions occur and target areas for primary and secondary prevention efforts. However, these two settings are often funded

and treated separately. Combining efforts and resources in these fields makes economic sense, but also has the potential to produce more effective results.

Community outreach is an important tool to bridge the PreK-12 school system and corresponding communities. Health education and health promotion efforts can produce a synergistic effect when combined and their effectiveness can be greater than separately adding the results from these disciplines. Already established health education and promotion models provide proven and tested framework to utilize for this approach. The R's & C's outline a roadmap of a health education specialist role in this endeavor and the HP 2020 goals and objectives offer overarching aims for a program. Community outreach allows for all these important resources in the public health field to come together to address important health concerns faced by U.S. today. While community outreach can be implemented in different forms, a focus should be to bridge the gap between Prek-12 school health programs and the corresponding communities through concurrent health education and health promotion efforts.

References

- American Cancer Society [ACS]. (2015). *Tobacco: The true cost of smoking*. Retrieved May 24, 2015 from <http://www.cancer.org/research/infographicgallery/tobacco-related-healthcare-costs>
- Campbell, T. C., & Campbell, T. M. (2006). *The China study: The most comprehensive study of nutrition ever conducted*. Dallas, Texas: Benbella Books.
- Carlsona, S. A., Fultona, J. E., Pratta, M., Yangb, Z., & Adams, E. K. (2015). *Inadequate physical activity and health care expenditures in the United States*. Science Direct. Retrieved May 2015 from <http://www.cdc.gov/nccdphp/dnpao/docs/carlson-physical-activity-and-healthcare-expenditures-final-508tagged.pdf>
- Center for Disease Control and Prevention [CDC]. (2015). *Chronic disease overview*. Retrieved May 24, 2015 from <http://www.cdc.gov/chronicdisease/overview/>
- Durch, J., Bailey, L., & Stoto, M. (1997). *Improving health in the community: A role for performance monitoring*. Washington, DC: The National Academies Press.
- Edwards, R. W., Jumper-Thurman, P., Plested, B. A., Oetting, E.R., & Swanson, L. (2000). The community readiness model: Research to practice. *Journal of Community Psychology*, 28(3), 291-307.
- Green, L. W., & Kreuter, M. W. (2005). *Health program planning: An educational and ecological approach* (4th ed.). Boston, MA: McGraw-Hill.
- Issel, M. L. (2014). *Health planning program and evaluation: A practical, systematic approach for community health*. (3rd ed.). Burlington, MA: Jones and Bartlett.
- Kreuter, M. W. (1992). Community health promotion: the agenda for the '90s, PATCH. *Journal of Health Education*, 23(3):135-9.
- McKenzie, J. F., Neiger, B. L., & Thackeray, R. (2012). *Planning, implementing, and evaluating health promotion programs: A primer* (6th ed.). San Francisco, CA: Benjamin Cummings.
- National Association of County & City Health Officials [NACCHO]. (2015). *MAPP Basics - Introduction to the MAPP*

process. Retrieved May 22, 2015 from <http://www.naccho.org/topics/infrastructure/mapp/framework/mappbasics.cfm>

National Task Force on the Preparation and Practice of Health Educators [NTFPPHE]. (1985). *A framework for the development of competency-based curricula for entry-level health educators*. New York: The National Commission for Health Education Credentialing, Inc.

Simons-Morton, D. G., Simons-Morton, B.G., Parcel, G. S., & Bunker, J. F. (1988). Influencing personal and environmental conditions for community health: A multilevel intervention model. *Family and Community Health*, 11(2), 25-35.

Tri-Ethnic Center. (2011). *Community readiness*. Retrieved May 21 2015 from http://triethniccenter.colostate.edu/communityReadiness_home.htm

The U.S. Department of Health and Human Services [HHS]: Healthy People 2020. (2015a). *About Healthy People*. Retrieved May 24, 2015 from <http://www.healthypeople.gov/2020/About-Healthy-People>

The U.S. Department of Health and Human Services [HHS]: Healthy People 2020. (2015b). *Objective development and selection process*. Retrieved May 24, 2015 from <http://www.healthypeople.gov/2020/About-Healthy-People>

World Health Organization [WHO]. (2015a). *Health education*. Retrieved May 25, 2015 from http://www.who.int/topics/health_education/en/

World Health Organization [WHO]. (2015b). *Health promotion*. Retrieved May 25, 2015 from http://www.who.int/topics/health_promotion/en/



SWVA VAHPERD Workshop hosted at Radford University

Self Dependence: The Self-Check Style of Teaching

William C Thomson, Associate Professor, *Department of Health, Athletic Training, Recreation and Kinesiology*, Longwood University

Self Dependence: The Self-Check Style of Teaching

There are many approaches to teaching skills and strategies in Physical Education, and our literature is rich with descriptions of these varied methodologies. One writer in particular, Muska Mosston, notably contributed to Physical Education's body of literature with his detailed descriptions of the characteristics of various teaching methods. In categorizing these "Styles of Teaching" the strengths and weaknesses of each method of teaching a Physical Education lesson were analyzed. Mosston's analyses showed that for any style a teacher might choose, certain aspects or possibilities of the teaching-learning situation were facilitated while other aspects were diminished. In other words, there are always strengths and weaknesses inherent in any teaching strategy (Mosston & Ashworth, 1994; Mosston & Ashworth, 2002). Table 1 displays a listing of the styles and a brief descriptive characteristic of each one.

Style	Style Name	Characteristic
A	Command	Students move on signal from teacher
B	Practice	Self-paced student practice; feedback from teacher
C	Reciprocal	Feedback from a peer observer
D	Self-Check	Feedback to self
E	Inclusion	Multiple levels of task difficulty
F	Guided discovery	Learning is directed by questions
G	Convergent production	Students converge on one correct answer
H	Divergent production	Multiple correct solutions to problem
I	Going beyond	Students conceive problem and solution

Table 1

This is the fourth article in a series which offers insight into each of the Teaching Styles. The first article in this series (published in *The Virginia Journal*, 30(2), 20-22, 2009) provided background information regarding the Spectrum of Teaching Styles, and a description of how the first style - Style A, or the Command Style - is used. The second and third articles discussed the next of the Teaching Styles along the continuum - Style B, the Practice Style, and Style C, the Reciprocal Style. Practical examples and suggestions regarding how these teaching styles can be used were included. This article will describe the characteristics, possibilities, and limitations inherent when students work in partnership with their teacher in evaluating their skills. This teaching style is known as the Self-Check Style (Style D).

Most PE teachers feel the need to provide feedback to students as they learn various motor skills. In a typical lesson the teacher may begin by providing a demonstration and explanation of the task to be learned ("Good morning everyone; today we're going to learn how to . . ."). After this, the teacher then asks students to begin practicing that task. The teacher circulates through the class offering feedback (preferably process-oriented feedback) to students about their performance. However, large class sizes can make it difficult to offer feedback to all students in a timely manner. Teaching style C (Reciprocal) offered an answer to

this dilemma. In this style, students observe one another and take turns giving feedback to each other. The teacher provides a demonstration of the task to be learned and usually some kind of task sheet which the student observers can use. Using the task sheet, which may have performance cues and/or pictures of correct technique, each student watches a performing partner and offers feedback based on the criteria given on the task sheet. The teachers' role is to assist the observers in becoming better at observing and providing the feedback. This style thus insures that all students receive feedback about how they are performing the task. Providing feedback in a constructive way is a skill that can be learned, and the more this style is used the better students should get at observing and assessing the physical skills their partner is displaying. The obvious drawback, of course, is that using students to give one another feedback means that, while this style is being used, half of the class is not getting physical practice of the skill. Yes, they are engaged cognitively, but they just aren't getting any skill repetitions. Feedback for all is gained at the expense of cutting the amount of skill repetitions each student will get. How can this new dilemma be resolved? The next style on Mosston's continuum of teaching styles provides an answer.

Style D - the Self-Check style - builds on the strengths of Style C (all students get feedback) while addressing that styles' weakness (loss of practice repetitions). It is an aptly named style because the responsibility for providing corrective feedback is now shifted directly to each student as s/he performs the task to be learned. Having gained some skill in providing feedback to peers via previous lessons in which Style C was used as a teaching strategy the students now employ that skill in self-analysis (Mosston & Ashworth, 1994).

As in all of the so-called the "Reproduction Styles" (Mosston & Ashworth, 2002; Thomson, 2009), the Self-Check style of teaching begins with the teacher explaining and demonstrating a task to the class. As in the Reciprocal style, once the teacher demonstrates the task to be learned and the way in which the students are to practice that task the teacher will usually also provide a task sheet with criteria for successful performance for the students to use. During practice time in the Self-Check style the students assume responsibility for identifying and correcting their own errors. The teacher usually does not critique student performance per se, but instead attempts to help students sharpen their self-analysis skills.

The following is an example of how this plays out in a lesson segment. Let it be assumed in this tennis lesson scenario that the students have warmed up and been hitting balls at net and from the baseline for some 6-8 minutes. Now the teacher wishes to use the Self-Check style during the next lesson segment on improving their serving motion. The serve has been practiced during parts of two previous lessons, and in yesterday's lesson

the teacher used the Reciprocal style to allow the students to give one another feedback. The teacher now begins this segment.

“OK everyone – gather around here. Two days ago we introduced and practiced serving the ball. We all spent more time serving yesterday but then we also had a little part of the lesson in which you watched your partner hit some serves and you gave him or her feedback based on the observation sheet I gave you. Then your partner hit more serves and you gave him or her feedback again, and then it was your turn to be the hitter and your partner’s turn to be the observer. Each of you helped a classmate by watching their serving motion and offering them some helpful information about that motion. Today I want to start with a quick review of the proper service motion and then let you begin practicing, but today you will be giving feedback to yourselves. Everyone take one of these observation sheets I’m passing around and let’s review the key points of serving.”

Now the students have the observation sheet in their hands and the teacher demonstrates proper serve technique on several serves. The teacher tries to draw the students’ attention to the key elements of the serve. The teacher may hit some serves with good form and may also hit some serves in which s/he intentionally makes some performance error.

“OK everyone, check out this serve and tell me if you see any errors (teacher hits a serve). OK, what did you notice about the form I showed that time?” Here the students give various answers. “Ok, now watch my arm motion this time and let me know if I did it correctly or incorrectly”. Again, the students and teacher dialogue about what constitutes proper technique.

Now the students spread to the various courts and begin serving. The teacher has left them instructions on how to practice, how many serves to hit, and when to review their task/observation sheets. A sample observation sheet used in Self-Check Style teaching follows to help to illustrate the instructions a teacher might give when using this teaching style.

Notes/What to work on:

Strengths of this style:

An interesting aspect of the spectrum of teaching styles is that quite often a weakness in one style is addressed in the next style along the continuum. Style D is no different. Here, all students have the opportunity for practice. Skill repetitions are once again (as in Style B, the Practice Style) available for all students as each student moves/performs at his/her own pace, getting as many skill reps as s/he can in the allotted practice time. This directly addresses the weakness of Style C in which practice reps are cut in half by the necessity of offering feedback to one’s peers (Mosston & Ashworth, 2002; Thomson, 2013). That approach, however, was important in that students got the opportunity to watch and observe skill movements and to practice “thinking” about the movements in a deeper way. This ability to analyze skill performance will now be applied to themselves. The students become more responsible for their own learning. This should help them become more self-reliant, more self-aware, and more active in their own learning.

In order for this to happen the teacher must interact with the students by asking questions. Instead of saying to a student “you are doing this part of the skill correctly and you are doing that part of the skill incorrectly” the teacher must draw those judgments from the student. A typical exchange may follow along these lines:

Teacher: Mariel, how are you doing with your serve?

Student: Pretty well I think.

Teacher: Ok, what’s going well?

Student: My toss is about the right height most of the time, and I’m getting some serves into the court.

Teacher: Yes, I’ve seen that. What about the place where you’re hitting the ball? Does it seem to be in front of your shoulder or off to one side? Is your arm pretty much always extended

Style D observation sheet example:

Player _____

Concentrate on proper form as you perform 4 serves, putting a checkmark (✓) in the appropriate box (boxes 1, 2, 3 and 4) when you believe you have used the correct technique. Make your marks after each individual serve. After the first four serves, look back and decide on what it is you most need to work on. Then repeat the process for four more serves, marking your performance for each in boxes 5-8. Repeat the process as time permits.

Serve Reminders: (1) ¼ turn from target (2) Toss higher than extended reach (3) Weight back, then forward (4) Slice the ball (don’t slap) (5) Follow through into court

	1	2	3	4		5	6	7	8
Grip = continental									
Stance = foot to post, ¼ turn									
Hands down together, straight toss arm									
Toss = front of hitting shoulder; into court									
Racquet loops, elbow extends									
Outcome/Product: ✓ = landed “in”									

when your racquet hits the ball, or is it kind of bent sometimes?
Student: Hmm, I think it's alright sometimes, but maybe not always. I'm not sure.

Teacher: Ok, why don't you hit your next two serves and don't think of anything except where you should be contacting the ball? Then you can tell whether you did it or not (student hits two more serves as teacher simply and silently watches).

Well, what do you think – were you hitting the ball in front of your hitting shoulder with your arm reaching out to the ball?

Student: Yeah, I think I was. I may not have been doing that before, but now I'll remember that.

Teacher: I think you were, too. If you can remember where a good toss should go you'll hit better serves more of the time.

As should be obvious, the role of the teacher is to help the students sharpen their skills in self-analysis. This is not easy, but it pays rewards as students become more self-reliant and less dependent on teacher (or peer) feedback.

Possible drawbacks to this style:

It may be hard for students to be completely honest with themselves as reality (how they are performing the task) and perception (how they think they are performing) may or may not coincide. Some students will certainly be too casual and rate themselves highly; they will perceive they are “doing really well” when, in fact, they are not. Conversely, some students will be too harsh on themselves. They will remember the demonstration provided by the teacher or by a video of a skilled performer that the teacher showed them. Even though they may be quite good for a beginner, they only see themselves as coming quite short of that performance level.

It is also worthwhile to note that while some students will become familiar with the observation sheets and comfortable with using them, others will forget to use the sheets and will fail to remember how they did on any particular skill repetition or group of repetitions. The teacher must be patient in helping students learn to develop their memory for self-analysis skills as much as their physical task skills. Further, when students have not attained basic competencies in the task, and thus their performance is not very good, what will their feedback tell them other than that they are “not good” at this task? This can be frustrating for students and teachers alike.

Self-analysis is a skill and needs to be practiced in order to be learned, and some students will simply have a difficult time learning to self-analyze. The teacher will ask questions to cue the students and ask them to perform the task and the student will still be unable to explain what it is that she or he is doing correctly or incorrectly. At that point a teacher may find it necessary to simply offer direct feedback (“You need to keep your ball-tossing arm straight and toss the ball in front of your hitting shoulder”).

Conclusion

Teaching Style D – the Self-Check Style – provides students plenty of opportunity for skill repetition while helping them take greater responsibility and ownership of their learning. During practice, students are assigned responsibility for providing self feedback. The role of the teacher is to help students with self-evaluation skills which, in turn, should aid their physical performance skills. The teacher must patiently use the skill of asking questions, and must try to refrain from directly correcting poor or improper technique. A typical teacher question might be “Where was the ball when your racquet contacted it?” and a typical student answer might be “I don't know”. In this style, instead of simply telling the student, the teacher must then refocus the student attention to the task. Something along the lines of “Try it again, only this time really concentrate on where you make contact” might be enough to prod the student to pay attention to the proper mechanics of the skill.

Building on Reciprocal style teaching the Self-Check style uses task sheets quite often. Students use these in comparing/contrasting their movements with the model movements provided by the teacher and the task sheet. Unlike the Reciprocal style, all students have the opportunity for practice and students should get plenty of skill repetitions in a well-organized lesson segment. This style should help the students become more self-reliant and more active in their own learning. However, the teacher must remember that self-analysis is difficult and the students will need practice at using the observation sheets.

In closing, it is interesting to note that in Practice Style (Mosston & Ashworth, 1994; Thomson, 2010) the students learn to perform a task. In Reciprocal Style, they learn to “use criteria” regarding the task and to give feedback to peers. In Self Check Style, they learn to use those skills for themselves! The combination of these styles in a lesson or series of lessons opens the door for increased learning on the part of the students and increased awareness on the part of the teacher.

References

- Mosston, M., & Ashworth, S. (1994). *Teaching physical education* (4th Ed.). New York: Macmillan.
- Mosston, M., & Ashworth, S. (2002). *Teaching physical education* (5th Ed.). San Francisco, CA: Benjamin Cummings.
- Thomson, W. (2009). Mosston's styles of teaching: A review of command style. *The Virginia Journal*, 30(2), 20-22.
- Thomson, W. (2010). Styles of teaching B: The practice style. *The Virginia Journal*, 31(2), 4-7.
- Thomson, W. (2013). Partners and peer observers - The reciprocal style of teaching. *The Virginia Journal*, 34(2), 15-18.

Students with Schizophrenia in Recess

Matthew D. Lucas, Ed.D., C.A.P.E, Associate Professor, *Department of Health, Athletic Training, Recreation and Kinesiology*, Longwood University

Cameron M. Williams, Exercise Science/Minor in Psychology, *Department of Health, Athletic Training, Recreation and Kinesiology*, Longwood University

Introduction

The participation of a student with childhood schizophrenia in recess can often be rewarding for the student, peers, and teacher. This paper will address common characteristics of students with schizophrenia and present basic solutions to improve the experience of these students in the recess setting. Initially the definition, prevalence, and characteristics of childhood schizophrenia will be presented. Benefits of recess will then be addressed. Lastly, the paper will present teacher recommendations for assisting children with schizophrenia in recess.

Definition and Prevalence of Schizophrenia

The Individuals with Disabilities Education Act (IDEA) states that children who are determined to have disabilities receive special education if the condition negatively affects the educational performance of the child. One disability category defined in IDEA, which includes a variety of specific disabilities, is *emotional disability (ED)*. The following definition of ED is noted in IDEA (2007). Please note that schizophrenia is included in the definition. ED is defined as:

"(i) The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

(A) An inability to learn that cannot be explained by intellectual, sensory, or health factors

(B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

(C) Inappropriate types of behavior or feelings under normal circumstances.

(D) A general pervasive mood of unhappiness or schizophrenia.

(E) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) The term includes **schizophrenia**. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance" (IDEA, 2007).

As noted, schizophrenia is included in the definition of ED. Childhood Schizophrenia is defined by the Mayo Clinic (2014) as "a severe brain disorder in which children interpret reality abnormally. Schizophrenia involves a range of problems with thinking (cognitive), behavior or emotions. Schizophrenia may result in some combination of hallucinations, delusions, and disordered thinking and behavior" (p. 1). Signs and symptoms may vary, but

they reflect an impaired ability to function (Mayo Clinic, 2014). Statistics indicate that schizophrenia affects approximately 1% of Americans. It should be noted that a child born into a family with 1 or more family members affected by schizophrenia has a greater chance of developing schizophrenia than a child born into a family with no history of schizophrenia. Also, it should be stated that after a person has been diagnosed with schizophrenia in a family, the chance for a sibling to also be diagnosed with schizophrenia is 10%. If a parent has schizophrenia, the chance for a child to have the disorder is 10%. Risks increase with multiple affected family members (University of Rochester Medical Center, 2015).

Characteristics of Schizophrenia

The importance of diagnosing childhood schizophrenia is very important. Although teachers and parents may note characteristics of children common to children with schizophrenia, only a psychiatrist can make the diagnosis (Mayo Clinic, 2014). Observations from teachers may be important in this process. Schizophrenia varies from person to person and no two people are the same. Schizophrenia has many signs and symptoms in children including two or more of the following symptoms present for a significant portion of time during a one month period.

1. Delusions
2. Hallucinations
3. Disorganized speech
4. Gross disorganized or cationic behavior
5. Negative symptoms (Childhood onset schizophrenia, 2004)

Benefits of the Recess Setting for Children with Schizophrenia

Simply stated, the benefits of the recess setting are high for all children. Included in these benefits are both physical and social benefits. In terms of physical benefits, recess has been shown to lead to:

- Improvement of out-of-school activity levels – children usually are involved in physical activities on days in which they participate in in-school physical activities (Dale, Corbin, & Dale, 2000).
- Improvement of general fitness and endurance levels for children (Kids Exercise, 2009).

For children with schizophrenia the specific benefits may include:

- Improved sleep
- Better endurance

- Stress relief
- Improvement in mood
- Increased energy and stamina
- Reduced tiredness that can increase mental alertness
- Weight reduction
- Reduced cholesterol and improved cardiovascular fitness (Exercise for Mental Health, 2015),

Recess Recommendations for Children with Schizophrenia

To achieve the aforementioned goal of addressing some of the characteristics often associated with recess, a few procedures should be put into play. The most of important is for the teacher to relay observations and concerns to the school administration, guidance counselor, and nurse. In addition, in terms of recess, the following recommendations should be put into place:

Accommodations and Modifications

Relieving stress from the environment is one thing that should be used. Try to avoid non-competitive games. Other accommodations include:

- Reduce stress by going slowly when introducing new situations such as the class going to recess, the introduction of a new game, etc.
- Try to avoid competitive games.
- Help students set realistic goals for out-of-class activities (e.g. how many basketball shots will be made during recess). Don't have the student expect to achieve a very, very high level as it may be discouraging if this level is not reached.
- Have a 'Team Meeting' with individuals working with the child and family to discuss the various aspects of the child's education – including recess - and development.
- Encourage other students to be kind and to extend their friendship during recess.
- Potentially give more recess time as a catharsis for the child.

* taken in part from “Children’s Mental Health Services, 2014”.

Again it should be noted that you need to contact the school administration, guidance counselor, and nurse when implementing accommodations and modifications. They can hopefully put procedures in place to address the root of the problem, not simply to deal with the characteristics.


Conclusion

The participation of a student with schizophrenia in recess can often be both challenging and rewarding for both the student and teacher. The rewards can manifest themselves in the ability of the teacher to guarantee both a positive experience for the student with schizophrenia and the safety of all students in an important social setting - recess. This paper has hopefully addressed some basic concerns and solutions to improve the recess setting of students with schizophrenia.

References

- Childhood onset schizophrenia (2004). The challenge of diagnosis. *schizophrenia.com*. Retrieved on November 13, 2014 from <http://www.schizophrenia.com/family/childdiag.htm>
- Children’s Mental Health Services. (2014). Schizophrenia. *cmh-sreach.org* Retrieved on November 12, 2014 from http://www.cmhsreach.org/disorder_schizo.html#education
- Dale, D., Corbin, C. B., & Dale, K. S. (2000). Restricting opportunities to be active during school time: Do children compensate by increasing physical activity levels after school? *Research Quarterly for Exercise and Sport*, 71(3), 240-248.
- Exercise for Mental Health (2015). *Brain, Fact, General Fitness, Mental Health, Tip* Retrieved November 25, 2015 from <http://totalformfitness.com/exercise-for-mental-health>
- Individuals with Disabilities Education Act (IDEA), Pub. L. No. 108-466. (2007).
- Kids and Exercise. (2009). The many benefits of exercise *kid-health.org*. Retrieved August, 30, 2014 from <http://kidshealth.org/parent/fitness/general/exercise.html>
- Mayo Clinic (2014). *Diseases and Conditions – Schizophrenia*. Retrieved September 8, 2014 from <http://www.mayoclinic.org/diseases-conditions/schizophrenia/basics/>
- University of Rochester Medical Center (2015). *Schizophrenia in Children*. Retrieved November 25, 2015 from <https://www.urmc.rochester.edu/encyclopedia/content>

Kay Park & Recreation 1-800-553-2476



Manufacturing "America's Finest" Park Equipment Since 1954!
Benches, Bleachers, Fountains, Pedal Boats, Picnic Tables, and much more!

Contact us now!
FREE 80 PAGE CATALOGUE
1-800-553-2476
(fax) 319-987-2900
sales@kaypark.com



Kay Park & Recreation
1301 Pine Street
Janesville, Iowa 50647

Celebrating 55 Years!

www.kaypark.com

Scoliosis in teenagers and common treatment and intervention methods – a systematic review of SportDiscus and AMED literature

Jana Greene, BS and Dr. David Sallee, PhD, Associate Professor, *Department of Health and Human Performance*, Radford University

Abstract

Background: Scoliosis is a condition that involves an abnormal curving of the spine. It is one of the more common spinal abnormalities of today. According to thousands of studies and many measurements, the prevalence of scoliosis was about 8.3 % among adults in the United States ages 25-74; women being the more affected gender (Maruyama, 2008). However, the abnormality is much rarer in children and adolescents, with a prevalence of between 3 and 5 individuals affected per every 1,000 (Maruyama, 2008).

The methods to help control the spinal curvature vary in severity due to how severe the curvature is to begin with. The types of scoliosis can vary from congenital to neuromuscular and infantile to adolescent (National Library of Medicine, 2011). This review will touch on each of the types of scoliosis and their treatment methods and formulate a consensus on the most effective treatments in use today.

Materials and methods: Search strategy for identification of studies; SportDiscus and the AMED databases, used English language and bibliographies of all reviewed articles. The search strategy included the terms; 'scoliosis'; 'scoliosis in athletes'; 'adolescents'; 'scoliosis surgery'; 'bracing'; 'scoliosis treatments' and 'spinal deformities'.

Results: The search was carried out on the 3rd November 2014 with the key word "scoliosis", revealed 733 titles, which not necessarily included the specific topics that this paper will review. The term "scoliosis treatments" found 143 titles and greatly narrowed the search for the specific topic on hand. The most common treatments reviewed were back bracing and spinal surgeries.

Conclusion: Scoliosis treatments vary in intervention strategies and the severity of said interventions. There are treatments ranging from physical therapy, back bracing/orthosis, and surgeries, depending on the degree of curvature, complications due to the spinal curve, the well-being of the patient and the time frame the patient has to correct the curve if medically needed. The choice of intervention and treatment is that of the patient and practitioner. According to the results found during the search, the most common interventions seem to be bracing and spinal surgery. Physical therapy is used in many cases but not as a primary treatment method. It is often paired with the two other methods of treatment. The search results also talk about the risks and effectiveness for each of these three methods. These methods have their own levels of being effective and some place a greater risk on the patient to provide a more permanent outcome.

Background

What is scoliosis?

Scoliosis is a fairly common spinal abnormality. It is noted as having abnormal curving of the spine. The spine should have some curve to it, but when someone is diagnosed with scoliosis, it is because the patient has greater than average curvature. The

most common curvatures patients experience are "c" curves and "s" curves.

Scoliosis most often affects the female population. Females are reported more likely to have curving of the spine (University of Maryland Medical Center, 2014). There has been no research as to why this is and may be due to the fact that more females seek treatment than males. It could also be due to more females reporting their spinal abnormalities and concerns to their physicians. Spinal curving generally can progress and worsen during a growth spurt in both males and females. If caught early and with the correct intervention and/or treatment, the curvature progression can be slowed, stopped, or even reversed (National Library of Medicine, 2011).

Common Signs of Scoliosis

- Uneven shoulders
- Visible curve in the spine
- Uneven hips

Common Symptoms of Scoliosis

- Aching back, most commonly low back pain
- Tired spine after sitting or standing for long periods of time
- Uneven shoulders or hips
- Curvature to one side of the spine (C curve) or two sides of the spine (S curve)
- Weakness on one or both sides of the back

Most Common Types of Scoliosis

The most common type of scoliosis is *idiopathic scoliosis* (National Library of Medicine, 2011). This is when the cause of scoliosis is unknown. This type of scoliosis is grouped by age as follows (National Library of Medicine, 2011):

Infantile scoliosis: affects individuals ages 3 years and younger

Juvenile scoliosis: affects individuals ages 4 to 10 years

Adolescent scoliosis: affects individuals ages 11 to 18 years

Other Types of Scoliosis

Other types of scoliosis include:

Congenital scoliosis: This type of scoliosis is present at birth. It occurs when the baby's ribs or bones of the spine do not form properly.

Neuromuscular scoliosis: This type is caused by a nervous system problem that affects one's muscles, such as cerebral palsy, muscular dystrophy, spina bifida, and polio (National Library of Medicine, 2011).

It should be noted that back and spine braces do not work for those with congenital or neuromuscular scoliosis, which can explain why degrees of curvature may progress and get worse over time. If an adolescent is misdiagnosed with the more common

idiopathic scoliosis and not neuromuscular or congenital, then the patient can think that the spinal curvature is getting better, when in fact it is worsening and the interventions and treatments are not effective (National Library of Medicine, 2011).

Common complaints from patients

Patients often complain about the physical signs that scoliosis shows. These can include; scapular winging, pinched sides, raised shoulders, leaning forward excessively, cannot extend the spine posteriorly, and insecurities and low self-esteem due to the various physical deformities listed and peers asking questions like “What’s wrong with you?” and “Why do you look like that?”

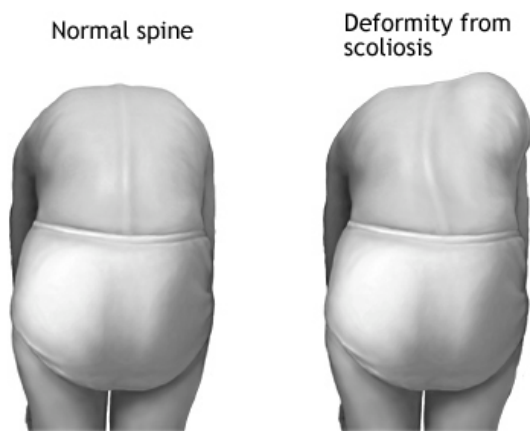
Patients with scoliosis can also have symptoms that include; extreme stiffness and soreness in back after activity; inability to carry a bag or back packs because of the uneven weight distribution and rubbing on winged scapulae causing irritation, inability to perform certain exercises like sit ups or alike due to extreme pain and pressure placed on the spinal column and surrounding musculature.

Methods of Diagnosis

Toe Touch Exam: Adam Forward Bend Test

A toe-touch exam is when the practitioner asks the patient to stand up and bend at the waistline to touch their toes. If scoliosis is present there will be a visible deformity and misalignment of the spine that will look abnormal. This is the primary diagnostic method and the patient will then be referred to get imaging done (Magnetic Resonance Imaging (MRIs) or X-rays)

A toe touch exam is shown in the picture below.



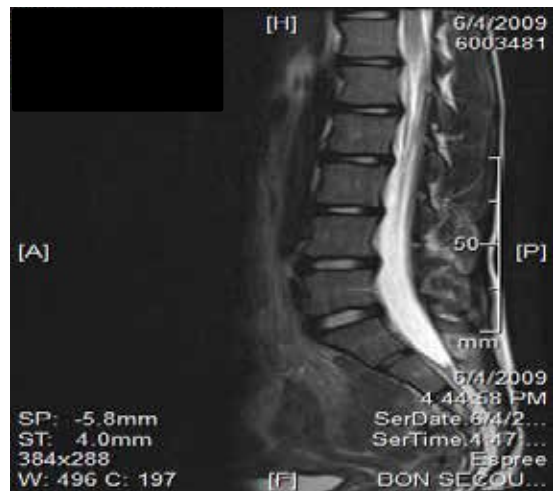
This image is courtesy of the Milton S. Hershey Medical Center’s online website. [Adams forward bend test]. (n.d.). Retrieved December 5, 2014 from <http://pennstatehershey.adam.com/content.aspx?productid=10&pid=10&gid=000068>

Magnetic Resonance Imaging (MRI):

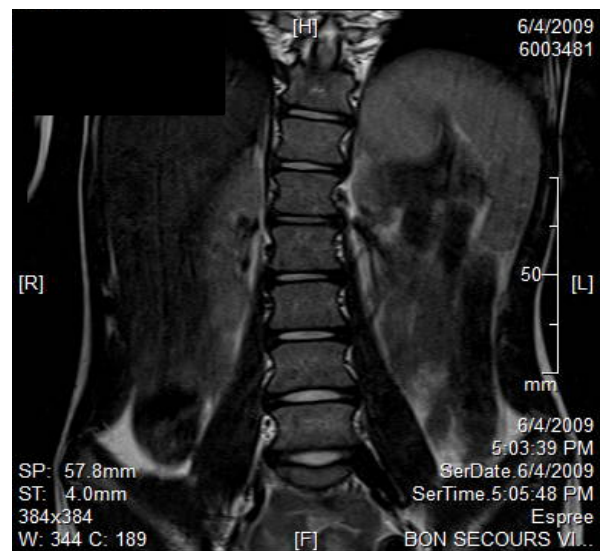
MRIs are able to show the clearest image of the spinal column. These are recommended for a patient with scoliosis due to the precision of the pictures and angles given. Various MRI images are shown below; anterior and lateral images show the severity of deformity that cannot otherwise be seen without imaging.

MRIs are vital in diagnosing and monitoring scoliosis and its curvature changes and progression. MRI is used throughout the growth periods, pre-operative, post-operative, and routinely as

needed to monitor the changes of this spinal deformity. It is now thought to be crucial in determining the underlying etiology of the disease in scoliotic cases that are non-idiopathic.



MRI of Lateral Left Side of Patient: It is a lateral view of the left side of her spine. Laterally her spine looks like a normal spine should. However, she does show a slight form of Lordosis because of her extreme lower lumbar curve.



MRI of anterior aspect of spine

This is an anterior view of her lower spine.

One can note the slight curvature in the spine and how it curves slightly to the right (left on patient).

X-ray Imaging:

X-rays also show a clear picture of the spinal column. These are usually taken before MRIs because practitioners need a basis of where the patient is in the spinal curvature progression. Getting an x-ray series is one of the first steps that need to be done when you are referred to a doctor if a patient is thought to have scoliosis.

X-rays will help gather a better picture of the possible problem, determine how mature the individual’s skeleton is, and will continue to be used to monitor progression (University of Maryland Medical Center, 2014). X-rays should be done every 3-12 months to monitor curve progression and to see if treatments are working

(University of Maryland Medical Center, 2014). The time between each x-ray series in adolescents depends on whether or not the individual is in a growth spurt.

The following pictures show various x-rays at different angles.



X-Ray of Cervical/Thoracic Spine Curve (Upper) Anterior View This is an x-ray of the upper curve in the cervical vertebrae. This curve is a very difficult curve to change/fix without surgery due to the anatomy and bones around this area of the spine.



This is an x-ray taken two years later. The patient's lumbar curvature was able to straighten out with the use of a back brace, but the cervical/thoracic curvature did progress due to the difficult nature of bracing this area due to the anatomy and bone structure. This type of curvature is usually treated with surgery, if the patient is a candidate.

position in hopes that the curve cannot progress when placed in this way. The higher side of the brace by the armpit area and the lower side of the brace by the hip is what places pressure on the curved side to force the spine in a straighter position. The braces researched in the literature were the Boston and Milwaukee back braces. Both of which can be placed under clothing. The braces are restrictive in spinal movement; however the braces are only mildly uncomfortable. You are able to move easily with exception to bending in the spinal column.

The larger portion of the day is spent wearing these braces during growth periods because a growth period is where spinal curvature progression is at its highest for adolescents. As a person is growing, so are their bones and if the spine isn't kept in a straighter position, the spine will continue to veer off in the direction of the curve, causing it to worsen. A brace is commonly used during this period in hopes of the patient not having to eventually get surgery to correct the problem.



X-ray showing spinal curvature in patient with an "s" curve. The cervical/thoracic curve is very visibly curved to the patient's right and is causing this patient to have another curve in the lumbar region of the spine that curves to the left.

The below pictures illustrate what a Boston back brace looks like.



The pictures above from left to right illustrate: A full photo of what the back brace looks like on a patient. The higher side pushes the curve into alignment. An anterior (front) view of a Boston Back Brace. A posterior (back) view of a Boston Back Brace. The left image is courtesy of the Milton S. Hershey Medical Center's online website. [Adams forward bend test]. (n.d.). Retrieved December 5, 2014 from <http://pennstatehershey.adam.com/content.aspx?productid=10&pid=10&gid=000068>

Treatment Methods

Back Bracing/Orthosis

Common Prescription of Treatment: A Boston back brace (straps in back) for 16 hours/day, heating pad or ice, NSAIDS.

Patients are usually prescribed a brace to wear for 16 hours per day during their growth periods to try and control for any progression of the spinal curve (University of Maryland Medical Center, 2014). The brace attempts to maintain the spine in a straighter

Physical Therapy:

Common Prescription of Treatment: To attend physical therapy sessions 2-3 times a week, depending on the severity of the curve and any other symptoms the patient is experiencing.

Common exercises used for scoliosis:

The following exercises were found on a physiotherapy website (Physiopedia, 2013) where the company has done research in the literature available as well:

The common start to the physical therapy session is a stretch/warm-up of the spine. This begins with upper rolling (to stretch the posterior chain of the spinal cord), child's position (to stretch the thoracic, lumbar and gluteal regions of the spinal column), and finally any other exercises the physical therapist deems fit to warm-up the patient (Physiopedia, 2013).

The session will continue into exercises to work on coordination, balance, muscular endurance and strengthening, increasing the range of motion (ROM) and core stabilization. The exercises can include, but are not limited to; sitting well-balanced on an exercise ball, stretching from all directions in a seated position on the ball, use of weights to build up the muscles in the back, and various abdominal exercises (Physiopedia, 2013).

The end of the session is usually a cool-down for the patient and to ask the patient any questions about how they are feeling, if they feel as if they can progress, and to reiterate to the patient to continue doing their home exercise regimen.

Spinal Surgery:

Common Prescription of Treatment: Spinal surgery becomes a treatment option once the curve of the spine reaches 45 degrees in adolescents. This is a standard for the requirements to be eligible for the traditional surgery according to the (Yang et al, 2010).

The traditional surgery involves correcting the spinal curvature, instrumentation, or use of rods, and eventually fusion of the spine. This surgery entails placement of a rod into the spinal column and connecting it with screws, hooks, and wires. Once the spine is straightened, the area of the spine affected by the curvature will then be fused so relapse or progression will not take place. The fusion typically uses a bone graft so as the vertebrae will fuse together. Smaller bone pieces are placed in between the affected vertebrae and they will eventually grow together. Rods are typically not removed after fusion has taken place. A patient may have complications and the rod may be removed under those circumstances.

There are now "fusionless" options on the surgical market for those with scoliosis and these options are growing in popular interest; however, since it is so new, there is not as much research on the topic. The literature found was mostly on instrumentation and fusion surgeries. However, there are many different fusionless procedures a patient with scoliosis can choose from, but the doctor and the patient will decide on the best option for the case at hand together. The fusionless options are dual growing rods, the Shilla Procedure, the VEPTR (vertical prosthetic titanium prosthetic rib), and Vertebral Stapling (Yang et al, 2010). VEPTR and vertebral stapling are commonly used in specific scoliotic populations and not too commonly used in adolescent idiopathic scoliosis. Some of these methods are also not used due to the complications seen in trials and the lack of extensive research in comparison to more

traditional surgical routes. The most common fusionless methods used are the Dual Growing Rods and the Shilla Procedure (Yang et al, 2010).

The dual growing rod procedure is a simple concept to understand. There are two rods placed at either end of the spinal curve and connected to the spine by screws, hooks, and wires. The two rods are connected and can be adjusted by loosening a set screw to lengthen the rods when the patient is growing. The patient will come back to the operating table periodically during their growth period to be adjusted. Most surgeons recommend returning around every 6 months until the growth period has ended and skeletal maturity has taken place (Yang et al, 2010).

The Shilla Procedure is very similar to the dual growing rods. This procedure does try to alleviate the need for lengthening procedures and tries to save the patients from return surgical visits. This operation places a rod around the apex of the spinal curve, corrects the curve, and fuses the spine. The use of non-traditional screws that can slide are placed at the ends of the apex rod so the other rods instrumented can hook or attach to them as the spinal column grows and the rods will eventually meet and lock into place (Yang et al, 2010). There have been complications from this surgery. Most of the complications being rod breakage.

Methods: Exclusion and inclusion criteria when selecting studies used in the literature review**Studies included**

Both retrospective and prospective studies, that focused on children, adolescents, and teenagers, and studies that reviewed the different methods of treatment and intervention.

Types of populations included

Children, adolescents, and teenagers (ages 3-24) with all types of scoliosis that have undergone or are going through a method of treatment or intervention

Types of populations excluded:

Adults ages 25 or older with scoliosis and individuals that do not have a clinical diagnosis of scoliosis

Types of treatment and interventions included

Physical therapy, back bracing, and spinal surgery

Search strategies for studies used

SportDiscus and the AMED databases, used English language and bibliographies of all reviewed articles.

The search strategy included the terms; 'scoliosis'; 'scoliosis in athletes'; 'adolescents'; 'scoliosis surgery'; 'bracing'; 'scoliosis treatments' and 'spinal deformities'.

Study Selection:

An electronic web search was conducted on the databases; SportDiscus and AMED. The studies selected were based on title, key words, and upon reading the abstracts. When full text documents were available the inclusion and exclusion criteria would be checked against each study. Once the criteria was met, the study would be selected and the references of that study would also be checked against the criteria and be chosen. The studies that were

very similar were checked by date and the most recent studies were selected for this literature review.

Results

The search was carried out on the 3rd of November 2014 with the key word "scoliosis", revealing 733 titles, which not necessarily included the specific topics that this paper will review. The term "scoliosis treatments" found 143 titles and greatly narrowed the search for the specific topic on hand. The most common treatments reviewed were back bracing, spinal surgeries, and physical therapy.

Of these, 46 titles reported on the different aspects of physical therapy and how this method was effective at treating different levels of severity in scoliosis. Most, if not all, of the studies did not come to a consensus on which exercises and rehabilitative techniques work the most effectively at correcting or slowing progression of a scoliotic curvature. To the authors knowledge, the studies done on physical therapy and its effect on scoliosis are not controlled studies that offer any type of scientific evidence that could prove that physical therapy effects the progression or treats a patient with scoliosis.

76 titles reported on the treatment of scoliosis by bracing. Of these 76 titles, 4 of them were published recently and had links to full text to review. These studies touched on two of the three common back braces used in the prevention of curve progression. The braces talked about in the literature were the Milwaukee and Boston Braces. Their differences are small, but are both effective at helping prevent progression. The authors would say there is not much evidence given in these databases to show true effectiveness of bracing in scoliosis. However, it should be noted that back bracing is effective at preventing scoliosis according to the Scoliosis Research Society.

129 titles reported on the effects of surgery on the treatment of scoliosis. Of these 129 titles, 15 of them were published recently enough and had links to full text to be reviewed. 7 of these titles discussed the surgery performed specifically for the treatment of scoliosis. The other studies reported on multiple surgeries performed at one time for numerous medical necessities. These 7 titles included data on adolescents and talked about the method used to treat scoliotic curves. The type of surgery reviewed was the traditional open back fusion with the use of metal implants and a spinal rod.

Discussion

Physical Therapy:

There is not enough research on the topic of scoliosis and the intervention strategy of physical therapy. There are broad and very general articles that have been published, but not many to consider in this literature review. However, Lenssinck, Frijlink, Berger, Bierman-Zeinstra, Verkerk, and Verhagen (2005) talked about the effectiveness of exercise and electrical stimulation in physical therapy.

Weiss, Weiss, and Petermann (2003) critiqued a lower quality study. The study examined two populations. The first population with scoliosis adhered to a exercise program and their spinal curvature progression was monitored. The second population with scoliosis did not adhere to an exercise program. This study was low quality because their control group was n=4. Overall, their

were minor differences on curvatures in research studies that had similar set-up as this study. The difference was usually small and the numbers couldn't be compared across the board due to every spinal curve being so different. There was no standard measurement used to make a true consensus.

Another method used in physical therapy that was found in the literature was electrical stimulation. This study had two populations as well. One population received electrical stimulation while the control did not. This study proved very little in terms of e-stim and the treatment of scoliotic curvature progression. This study reported that failure rates were rather high and that there was little difference between e-stim use and not using electrical stimulation (Lenssinck et al, 2005).

Bracing:

There is extensive research done on the effects of back bracing and scoliosis, the effectiveness has been reported and many studies came to a consensus. The consensus being that bracing in adolescents, during a growth period, is highly recommended by Lenssinck and his colleagues (2005) and Pialasse and his colleagues (2014). If the patients adhere to the wearing of the brace approximately 16 hours a day then the curve progression will slow and possibly save the patient from having to undergo spinal surgery. Lenssinck and colleagues (2005) found that bracing in comparison to exercise and electrical stimulation was more effective on an average of 50-80% and 40-80% respectively. Their literature shows that bracing should be the primary prevention strategy to slow the progression of scoliotic curvature and that exercise solely on its own should not be implemented to single-handedly slow the progression (Lenssinck et al, 2005).

Another study comparison by Lenssinck and colleagues (2005) compared the effectiveness between the Milwaukee and Boston back braces. These two braces should not be compared as they both are used for treatment in different areas of curvature in the spine. The Boston Back brace, also called the Thoraco-Lumbo-Sacral Orthosis, is prescribed for curves in the thoraco-lumbar and lumbar areas of the spine. The Milwaukee back brace, also called the cervico-thoraco-lumbo-sacral orthosis is similar to the Boston back brace, but attempts to correct curvatures in the neck (cervical) and thoracic areas of the spine. Since some areas of the spine are more easily corrected than others, these two braces should not be compared in effectiveness. They both are made to do what they are supposed to do and when not being compared, they are both very effective at slowing or stopping curvature progression.

Surgery:

Many of the authors including Weiss (2003 and 2008) and Yang (2010) found the effects of surgery on scoliotic curvature came to a general consensus that surgery is the most effective way to correct a spinal abnormality, like scoliosis. The literature available explains the different types of surgeries whether they are implementation and fusion strategies or fusionless strategies. Many of the fusionless surgeries are still under trial and review because this method is so new. Research is definitely needed on this aspect of scoliotic surgery.

The effectiveness seems to be the highest in the use of surgery to correct spinal curves in comparison to physical therapy and

spinal bracing. This is due to it being the most invasive form of corrective measures one can take. Surgery is the most permanent form of intervention and treatment a patient can undergo. Whilst physical therapy is a continuous work-in-progress treatment and bracing can only work for so long until the curve progression reaches or does not reach the degree point of surgical intervention, spinal surgery tends to almost physically halt the progression of scoliotic curvature (Weiss, Weiss, and Petermann, 2003). There have been studies by Weiss and his colleagues (2003 and 2008) and Yang and his colleagues (2010) that prove that there may be minor curve progression after the spine has been aligned by surgical measures, but this is to be expected after the spine is forced into alignment from such a drastic and unnatural curve. The spine will naturally want to fall into the curve it originally exhibited due to the spine being in that position for so long.

Conclusion

Bracing, otherwise known as orthosis, and surgical interventions seem to be the most effective treatment methods for scoliosis. Physical therapy should not only be used as a primary treatment and curvature progression prevention strategy. It is well paired with orthoses and also rehabilitation after surgery to help with strengthening the muscles around the instrumentations.

The method of surgical intervention does seem to be the most effective in comparison to bracing. Bracing will try to halt the curvature progression in an attempt to help the patient avoid undergoing surgery, but surgery does provide a more permanent effect. Surgery can fix the curve in the spine by forcing the spine into its natural curve instead of the abnormal curvature due to the scoliosis. The type of intervention used will always depend on the patient and what the physicians will deem the most beneficial for the patient's specific curvature.

References

Early night-time-bracing sufficient in stopping IAS progressions. (2010). *O&P Business News*, 19(7), 13.

Hershman, S. H., Park, J. J., & Lonner, B. S. (2013). Fusionless surgery for scoliosis. *Bulletin of the Hospital for Joint Diseases*, 71(1), 49-53.

Jerrell, M. L. (2007). Orthotic management of scoliosis. *O&P Business News*, 16(19), 22-28.

Lenssinck, M., Frijlink, A., Berger, M., Bierman-Zeinstra, S., Verkerk, K., & Verhagen, A. (2005). Effect of bracing and

other conservative interventions in the treatment of idiopathic scoliosis in adolescents: a systematic review of clinical trials. *Physical Therapy*, 85(12), 1329.

Maruyama, T. (2008). Bracing adolescent idiopathic scoliosis: A systematic review of the literature of effective conservative treatment looking for end results 5 years after weaning. *Disability & Rehabilitation*, 30(10), 786-791.

National Library of Medicine. (2011). *Scoliosis: spinal curvature; infantile scoliosis; juvenile scoliosis*. Retrieved November 28, 2009 from National Library of Medicine: <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002221/>

Physiopeedia. (2013). *Scoliosis*. Retrieved December 5, 2014 from Physiopeedia: <http://www.physio-peedia.com/Scoliosis>

Pialasse, J., & Simoneau, M. (2014). Effect of bracing or surgical treatments on balance control in idiopathic scoliosis: Three case studies. *Journal of the Canadian Chiropractic Association*, 58(2), 131-140.

Shriners Hospitals for Children. (2012). *Scoliosis and other spine conditions*. Retrieved November 28, 2009 from Shriners Hospital for Children: <http://www.shrinershospitalsforchildren.org/CareAndTreatment/Orthopaedics/Scoliosis>

Spine-health. (2002, March 26). *Types of Scoliosis Braces*. Retrieved December 5, 2014 from Spine-health: <http://www.spine-health.com/conditions/scoliosis/types-scoliosis-braces>

Starkey, C., Brown, S.D. & Ryan, J. (2010). *Evaluation of orthopedic and athletic injuries*, (3rd) Philadelphia, PA: Davis University of Maryland Medical Center. (2014). *Adolescent Scoliosis*. Retrieved December 5, 2014 from University of Maryland Medical Center Spine Center: <http://umm.edu/programs/spine/health/guides/adolescent-scoliosis>

Weiss, H. (2008). Adolescent idiopathic scoliosis (AIS): An indication for surgery? A systematic review of the literature. *Disability & Rehabilitation*, 30(10), 799-807.

Weiss, H., Weiss, G., & Petermann, F. (2003). Incidence of curvature progression in idiopathic scoliosis patients treated with scoliosis in-patient rehabilitation (SIR): An age- and sex-matched controlled study. *Pediatric Rehabilitation*, 6(1), 23.

Weiss, H., Weiss, G., & Schaar, H. (2003). Incidence of surgery in conservatively treated patients with scoliosis. *Pediatric Rehabilitation*, 6(2), 111.

Yang J.S., McElroy M.J., Akbarnia B.A., et al. (2010). Growing rods for spinal deformity: Characterizing consensus and variation in current use. *Journal of Pediatric Orthopaedics*, 30(3), 264-70

Swimming in Adapted Physical Education: Guaranteed for many, but offered by few

Matthew D. Lucas, Ed.D., C.A.P.E., Associate Professor, *Department of Health, Athletic Training, Recreation and Kinesiology*, Longwood University

Adapted physical education is often defined simply as physical education that is modified for children with disabilities. The Individuals with Disability Education Act is the cornerstone of special education. The law guarantees a free and appropriate public education to children with disabilities. Included in this law is a legal guarantee the child will be taught the subject of physical education. Interestingly, the term “adapted physical education” is not actually used in laws. In terms of physical education, Sec. 300.108 of the Individuals with Disability Education Act (IDEA, 2004) states:

The State must ensure that public agencies in the State comply with the following:

- (a) General. Physical education services, specially designed if necessary, must be made available to every child with a disability receiving free appropriate public education, unless the public agency enrolls children without disabilities and does not provide physical education to children without disabilities in the same grades.
- (b) Regular physical education. Each child with a disability must be afforded the opportunity to participate in the regular physical education program available to nondisabled children unless--
 - (1) The child is enrolled full time in a separate facility; or
 - (2) The child needs specially designed physical education, as prescribed in the child's IEP.
- (c) Special physical education. If specially designed physical education is prescribed in a child's IEP, the public agency responsible for the education of that child must provide the services directly or make arrangements for those services to be provided through other public or private programs.
- (d) Education in separate facilities. The public agency responsible for the education of a child with a disability who is enrolled in a separate facility must ensure that the child receives appropriate physical education services in compliance with this section.

(Authority: 20 U.S.C. 1412(a)(5)(A)) (IDEA, 2004)

The reader should note that physical education is guaranteed to all students that receive special education services: “The State must ensure that public agencies in the State comply with the following: . . .” But what is physical education? Is it children throwing a ball to other children in a small group? Is it simply having students walk around a gym? Is it just playing team sports? Is it recreation or is actual instruction included in a physical education class? Although many parents and teachers of children in special education may not note it, physical education is defined

in IDEA - the cornerstone special education legislation. IDEA defines "physical education" as the development of:

- Physical and motor skills
- Fundamental motor skills and patterns
- Skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports) (34 C.F.R.300.39(b)(2)) (IDEA, 2004)

To this end, the author would like the reader to take note of two very important items included in the law: 1) If children without disabilities receive physical education, than students with disabilities should also receive physical education. This is noted in the following sentence of the special education law, “Physical education services, specially designed if necessary, must be made available to every child with a disability receiving free appropriate public education, unless the public agency enrolls children without disabilities and does not provide physical education to children without disabilities in the same grades” (Authority: 20 U.S.C. 1412(a)(5)(A)) (IDEA, 2004) and 2) Physical education includes aquatics (IDEA, 2004). Note that aquatics is included in the legal definition of physical education.

When discussing physical education and adapted physical education, especially how it pertains to the state of Virginia, the reader should also note that The Virginia Department of Education (VDOE) explicitly states that physical education “*must be based on the individual needs of your child, not a single model used for a specific population or category of children with disabilities*” [italics provided by the author]; (Virginia Department of Education, 2010). If most students do not benefit from aquatics, but some students do benefit, should it not be included in physical education? No, if the student benefits from aquatics, it should be included for that child. Remember, physical education “*must be based on the individual needs of your child, not a single model used for a specific population or category of children with disabilities*” (Virginia Department of Education, 2010).

Many would not debate the benefits of aquatics or swimming for all children. Such benefits include the following:

- Aquatics is something that children can continue to do for the rest of their lives
- Aquatics provides a fun and challenging way to help children stay fit
- Aquatics teaches important safety skills to prevent drowning, which is the second leading cause of unintentional injury death among youth
- Aquatics provides cardiovascular activity that promotes heart and lung health
- Aquatics improves stamina, flexibility, strength, balance and posture

- Aquatics helps prevent childhood obesity, which is an increasing health problem, and that in turn can help prevent juvenile diabetes
- Aquatics is a mental exercise that can help improve emotional health and well-being.
- There are very few injuries sustained from swimming when compared to other youth sports (Johnstonhealth.org, 2013)

Although the needs of all individual students cannot be determined without recognizing the specific disability of the child and more importantly, a formal assessment of the student, general benefits for children with disabilities are usually agreed to exist. Is participating in swimming more beneficial for children with disabilities or medical conditions? The answer is to follow. These benefits include the following:

- With correct supervision, swimming is practically a low-risk form of therapy for people with special needs. Water's buoyancy relieves the stress that gravity normally places on muscle, thereby providing a greater range of motion. Such an environment gives an opportunity to build muscles and improve coordination. In addition, the sensation of water on the body is good for neurological development.
- Swimming is considered to be safer than land-based physical therapy because in the pool there are no hard spots to fall on. As long as there is a qualified swim therapist present, the water is safe.
- For people with special needs, swimming can increase their independence, which in turn can increase self-confidence and lead to a better quality of life.
- Greater social integration is something that can be seen at first hand. Parents of children with special needs have noted how they have started to note how they have started to socialize more at school and elsewhere, not only amongst themselves but also in the community in general. (eswimming.edu, 2001)

Specialneeds.com (2005) states that "Teaching kids with special needs to swim is not only a good idea, it's essential. Swimming

lessons help kids with special needs in a number of key areas, including greater muscle strength and physical endurance, increased flexibility, more self-control, and, in many instances, improved behavioral outcomes" (p.1). As can be noted these benefits listed include items from a variety of domains. In terms of physical benefits swimming builds muscles and improves the student's range of motion. In terms of social benefits, swimming can increase independence, self-confidence, and social skills.

How many students with disabilities are offered this legally guaranteed service of aquatics in physical education? How many schools have pools? How many schools provide the opportunity for swimming? The author and reader may find it easy to note the legal rights of many students to have aquatics included in their physical education program, but he/she also can note the fact that many schools do not have pools, or give students access to them. A possible answer may be for school systems to utilize local YMCAs or colleges & universities. This predicament may be difficult to solve, but according to the law, during these situations, the school system must find a solution. The benefits for the student are the most important. Schools should provide services for students to have a legitimate chance to reach their potential.

References

- Eswimming.edu. (2001). Benefits swimming offers to people with special needs. Retrieved October 1 from http://www.eswimming.eu/eng/written/shared/benefits_special_needs.html
- Individuals with Disabilities Education Act (IDEA), Pub. L. No. 108-466. (2004).
- Johnstonhealth.org. (2013). 10 benefits of swimming for health. Retrieved October 4 from <http://johnstonhealth.org/2013/05/10-benefits-of-swimming-for-youth/>
- Specialneeds.com. (2005). Teaching special needs kids to swim. Retrieved October 3 from <http://www.specialneeds.com/children-and-parents/general-special-needs/teaching-special-needs-kids-swim>
- Virginia Department of Education. (2010). Parents guide to special education. Retrieved September 30, 2015 from http://www.doe.virginia.gov/special_ed/parents/parents_guide.pdf



2016 SHAPE America Southern District Conference

February 10-13, 2016

Virginia Beach, VA

VAHPERD is
co-hosting the
2016
Southern District
Conference
at

The Williamsburg Lodge
Williamsburg, VA

Mark your calendars now for
this event. There are over
120 presentations planned
for this weekend of learning
and fun. We hope to see



The Williamsburg Lodge



Lobby at
The Williamsburg Lodge

See the VAHPERD Web page, the Fall 2015 Issue of
The Communicator, and e-mail blast for details.

Guidelines for Manuscript Submission - (Revised Spring 2010)

The Virginia Journal is published twice yearly (Fall and Spring) by the Virginia Association for Health, Physical Education, Recreation and Dance. Deadlines for submitting materials for inclusion in the spring and fall issues are January 15th and July 15th respectively. Manuscripts should be sent to Dr. Michael Moore, TVJ editor, by email in an attached WORD document. Each e-mail attachment should not be greater than 4 MB. In submitting a manuscript, the author affirms that it has not been published or accepted for publication elsewhere, unless otherwise stated in writing.

Manuscripts

Manuscripts follow the form of the Publication Manual of the American Psychological Association and must be typed on 8 ½ by 11 inch paper. The attached manuscript must be double spaced except that direct quotations of three or more lines in length are to be single spaced and indented. Manuscripts should not exceed 10 double-spaced pages of narrative including the citation page. Pages should be numbered consecutively. The name and institution of each author are inserted on a title page but not on the narrative. There should be provided on the title page biographical information on each author. This biographic information should include name and position at time of manuscript submission.

Any research involving human subjects must have Institutional Review Board (IRB) approval before a review can take place. A PDF copy of the letter must be submitted with each manuscript. If IRB approval was not granted and TVJ editor doesn't have a copy of the approval letter, the manuscript will not be published. Please check with your institution or school for IRB details.

References should be listed at the end of the manuscript and should be arranged in alphabetical order. Each reference cited in the article must be listed, but only those cited should be included. Sources should be cited by placing the author's name and date of publication followed by a page number when appropriate in parentheses: i.e., (Cowlick & Rice, 2003). The reference should be cited following the quote or fact noted. References listed at the end of the article should contain the following information:

1. The author, editor's or compiler's name, in reverse order (surname, followed by first and middle initials).
2. The exact title. Titles of books, pamphlets, periodicals, and newspapers are underlined: titles or articles within periodicals or books are not underlined and precede the periodical or book in which they are found. Only the first word of the title is capitalized and the title is followed by a period.
3. Titles of books are followed by place: company, date of

publication. The date, volume, and page numbers follow the title of a journal. If each issue of a journal begins with page 1, include the issue number after the volume number in parentheses. Volume numbers should be italicized, issue numbers should be in parentheses and not italicized for journals. Please see below and the following web page for further examples of APA styles of various sources. <http://libguides.radford.edu/apastyle>

Examples of Citations

American Dietetic Association. (1999). Dietary guidance for healthy children aged 2 to 11 years. *Journal of the American Dietetic Association*, 99, 93-101.

Kulwicki, A., & Rice, V.H. (2003). Arab American adolescent perceptions and experiences with smoking. *Public Health Nursing*, 20, 177-183.

Illustrations

Illustrations such as pictures, graphs, and drawings are valuable additions to manuscripts. Please send these embedded within your manuscript.

Reviewing and Editing

Each article is reviewed by three members of the Editorial Board. Sometimes a guest editor is asked by the editor to review a manuscript depending upon the topic. To be accepted for publication the article must be approved by at least two of these persons. Reasons for rejecting articles include: topic is not of interest to the profession or to only a few members of the Association, topic is of interest but has already been thoroughly discussed in the literature, manuscript discussion is too general and vague, poor research techniques, the manuscript is poorly written or if human subjects were used in your research and IRB approval was not obtained and provided to TVJ Editor. In some instances a manuscript may be rejected but the author is invited to revise and resubmit it with corrections. Manuscripts accepted are subject to editing to conform to the Journal format.

Final Acceptance for Printing

After the editor has compiled the journal issue, it is sent to the printers. VAHPERD's executive director, president and presidentelect then edit *The Virginia Journal*. These three VAHPERD members are provided with a minimum of two drafts for their revision and comment. Upon their approval, the final document is printed and distributed.



**Starsia Lacrosse Camp
at Graves Mountain Lodge**
Dom Starsia
1123 Shiloh Road
Charlottesville, VA 22903
Phone: 434-295-9759
Email: starsialax@aol.com



Sturdisteel
GRANDSTANDS
BLEACHERS
ALUMINUM SEATING

Matt Stephens
Sales Representative
Schultz Industries, Inc.
P.O. Box 2655
Waco, TX 76702-2655
1-800-433-3116
Local (254) 666-5155
Fax (254) 666-4472
www.sturdisteel.com

LARRY SHORES RUFUS RUARK

URBANNA CREEK BRAND



SHORES & RUARK SEAFOOD, INC.
RT. 680
URBANNA, VA 23175

(804) 758-5640
FAX: 758-3396

GRAND
Home Furnishings
FURNITURE & MATTRESSES
Stores throughout Virginia
(800) 708-2417
www.grandhomefurnishings.com

RM Richmond Machinery
The Finest in Construction Equipment Since 1919
Michael S. Colley
President

1701 Rosenath Road
Richmond, VA 23230
Office (804) 359-4048

Home (804) 672-0390
Mobile (804) 347-4940
Fax (804) 359-4179

Chesterfield Trading Co., Incorporated

804-275-7848
9501 Jefferson Davis Hwy.
Richmond, Virginia 23237

BLILEY'S
Celebrating Every Life
PERSONALIZED FUNERAL AND CREMATION SERVICES

3801 Augusta Avenue
6900 Hull Street Road • 8510 Staples Mill Road
Richmond, Virginia | 804-355-3800 • BLILEYS.COM

Cross Rip Campground
Located on the Chesapeake Bay
Beach • Fishing • Boat Basin
42 Shady Campsites • Electric & Water Hookups Available
Seasonal Rates
Open MAY - OCTOBER
RESERVATIONS ONLY
Deltaville e-mail: rmstokes@worldnet.att.net 776-9324



VAN LAND REALTY
BOX 241
CALLAO, VIRGINIA 22435

ROBERT G. VANLANDINGHAM OFFICE (804) 529-7225
BROKER HOME (804) 529-7508



Cofer's
Small Engine Ser., Inc.
(804) 458-1809
Outdoor Power Equipment
13908 James River Dr.
Hopewell, VA 23860

COE ELECTRIC
804-264-4806
2629 PENROSE DRIVE
RICHMOND, VA 23227



NEFF LUMBER MILLS, INC.
P.O. Box 457
BROADWAY, VIRGINIA 22815
PHONE (540) 896-7031

Manufacturers of Fine Appalachian Hardwoods
Fencing Boards—Steamed Black Walnut
Hardwood Mulch—Sawdust—Wood Chips—Pallet Stock

W. E. RAGLAND LOGGING



Rt. 3 Box 473
Scottsville, Virginia 24590
(434) 286-2705



A-1 G & U Towing and Repair
SAM & PAT ERWIN
24 Hour Towing • Lockouts • AAA & Most Motor Clubs
Automobile Repair & A/C Service • U-Haul Rentals
(434) 447-3373 • 24 HRS. 601 N. MECKLENBURG AVE.
(434) 447-3377 SOUTH HILL, VIRGINIA 23970

Menchville Marine Supply Corp.
Wholesale/Retail: Peeler Crabs & Oysters
494-B Menchville Rd. South Newport News VA 23602
757-775-9167

Jason Coffey
Operations/Vice-President

Lonnell Coffey
President
757-879-9853

Sales and Service

Bob's Wheel Alignment
923 East Market Street
Charlottesville, VA 22902

Bob Archer, Owner
Todd Archer, Manager
Phone: (434) 296-4523



RAMADA PLAZA
NAGS HEAD OCEANFRONT
1701 S.Va Dare Tr. • Kill Devil Hills, NC 27948
MP 9 1/2 • www.ramadaplazanaghead.com
www.the.ramada.com/killdevilhills00604
252-441-2151 • 800-635-1824 • Fax 252-441-1830

Recreational Vehicles Cargo Trailers Utility Trailers Carports LP Refill Station Parts/Service Hitches Truck Accessories

Grandview Trailer Sales
Serving Central VA. Since 1985
Gulf Stream 5th Wheel and Travel Trailers
Sunny Brook's "Sunset Creek" and "Brookside"

Kenneth and Linda Hurt
2486 W. Lynchburg-Salem T. Bedford, VA 24523
www.grandviewtrailersales.com
kenneth@grandviewtrailersales.com

Phone: (540) 586-3590



CAMPBELL WOOD PRODUCTS
P.O. Box 239
North Garden, VA 22989

HARRY CAMPBELL Tel (434) 293-3021
Fax (434) 293-9204

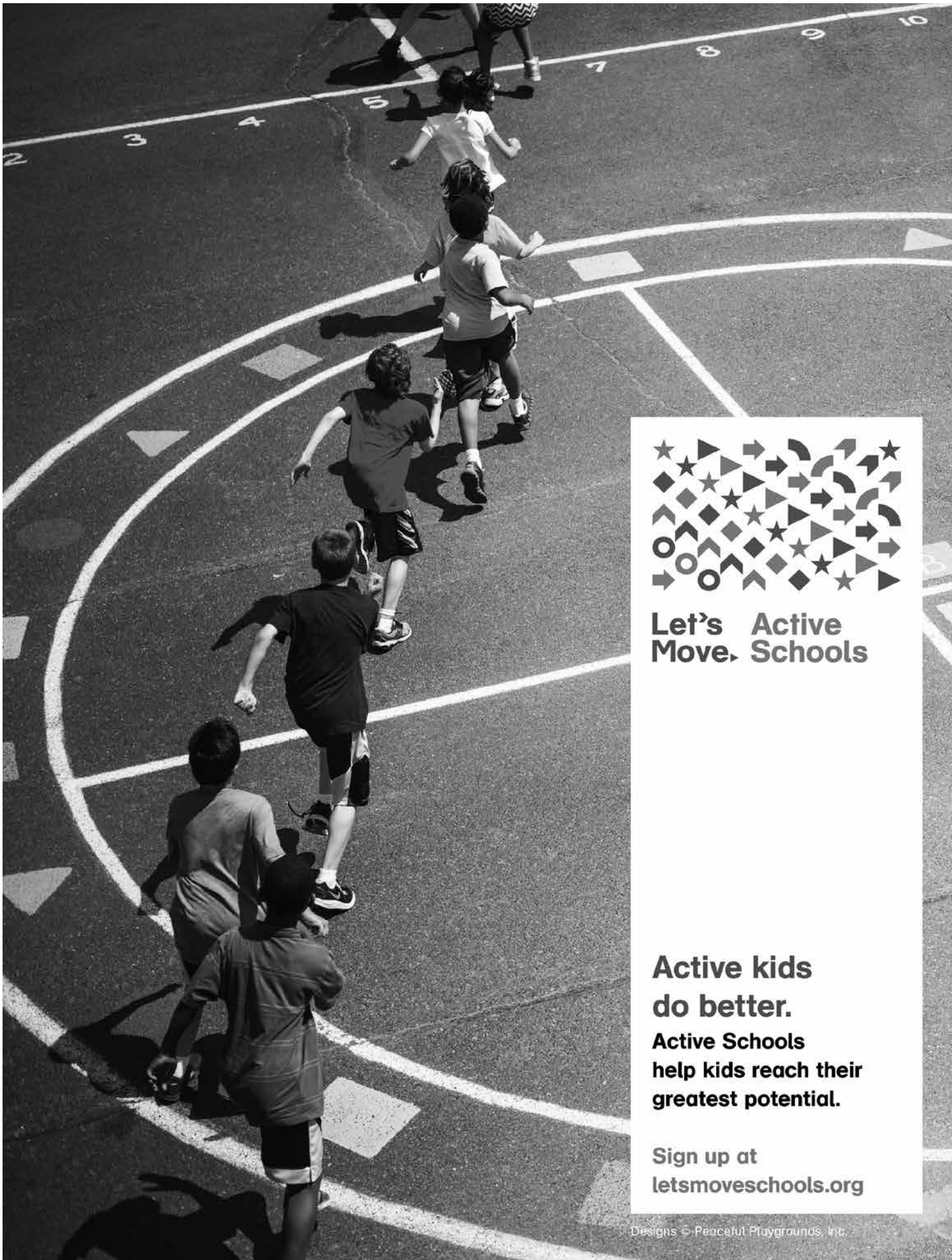
50+ YEARS IN THE WOODS

REAVES TIMBER CORPORATION
"We Buy Standing Timber"

4. EQUIPMENT SALES
4. LAND CLEARING
4. LOGGING
4. CHIPPING
4. TRUCKING
4. FIREWOOD

DONNY REAVES
PRESIDENT

www.reavestimber.com
reavestimberinc@msn.com
P.O. Box 29 • Coleman Falls, VA 24536
(434) 299-6333 Office/Fax • (434) 660-9272 Cell
WE BUY LAND & TIMBER



**Let's Active
Move Schools**

**Active kids
do better.
Active Schools
help kids reach their
greatest potential.**

**Sign up at
letsmoveschools.org**



Hoops For Heart is a national education and fundraising event created by the American Heart Association and SHAPE America-Society of Health and Physical Educators. Students learn basketball skills, learn the benefits of physical activity, healthy eating and avoiding tobacco; and raise funds for research and programs to fight heart disease and stroke. Millions of students have joined us in being physically active and in fighting heart disease and stroke by funding research and educational programs. Be a part of this great event and your school will earn gift certificates for FREE P.E. equipment from U.S. Games.

Call **1-800-AHA-USA1** or visit heart.org/hoops to get your school involved.



SHAPE America is a proud program partner of Hoops For Heart.



©2015, American Heart Association. Also known as the Heart Fund. 7/15DS9292

Ball Four Sporting Goods

**10924 HULL STREET RD
MIDLOTHIAN, VA 23112**

**PHONE: 804-745-3687
HOURS: MON-FRI 11AM-7PM
SAT 11AM- 6PM
SUN- CLOSED**



WWW.BALLFOURSPORTINGGOODS.COM

**BRING THIS CARD
INTO THE STORE TO RECEIVE**

10% OFF ALL SPORTING GOODS



The Virginia Journal

Radford University
Department of Health and Human Performance
P.O. Box 6957
Radford, VA 24142



www.facebook.com/vahperd



www.twitter.com/vahperd

Please submit a manuscript or announcement for our next issue.

The Virginia Journal **Publication Specifications**

Submission Deadlines:

January 15 and July 15

Manuscript Specifications:

All manuscripts and announcements should be submitted by e-mail as a WORD attachment. See page 22 for more information.

Authors:

Please include your name, position, address, e-mail address, and telephone number. Authors are strongly encouraged to be members of both VAHPERD and SHAPE America.



HAVE YOU MOVED?

*Please send your change of address
information to:*

Henry Castelvechi
Executive Director
info@vahperd.org