

August 2011- Under Review

**PENNSYLVANIA SCHOOL SCOLIOSIS
SCREENING PROGRAM
ADMINISTRATIVE GUIDELINES FOR
SCHOOL PERSONNEL**



INTRODUCTION

These guidelines have been prepared for school nurses and other school personnel who will be responsible for planning, developing, implementing, reporting, and evaluating the school scoliosis screening program.

These guidelines should be thoroughly reviewed before beginning a school scoliosis screening program.

This version of the Pennsylvania School Scoliosis Screening Program Administrative Guidelines for School Personnel was revised by the following committee:

Jane Burkly, L.P.T.

Mary Ann Machinas, L.P.T.

Paul L. Gyder, L.P.T.

Beverly Diurba, L.P.T.

David R. Weiler, L.P.T.

Bernice P. Baxter, M.Ed., R.N., CNA

TABLE OF CONTENTS

	<u>Page</u>
Definition	1
Legal Basis.....	1
Rationale for School Scoliosis Screening Program	1
Goal of School Scoliosis Screening Program	1
Program Implementation	2
Planning and Education	2
Scoliosis Screening Program	3
Record Keeping	6
Referral and Case Management	6
Screening Options.....	6
Screening Sites.....	7
Preparation of Students for Screening	7
Selected Bibliography.....	8
Resources	10
Appendices.....	11
Appendix 1 – Regulations of the Pennsylvania Department of Health	12
Appendix 2 – School Health Consultants (listing with counties).....	13
Appendix 3 – Qualification Standards for Initial and Secondary Screening for Scoliosis.....	14
Appendix 4 – Parent Information Letter (Sample)	15
Appendix 5 – Required Form – Parent-Physician Letter and Instructions	16

PENNSYLVANIA SCHOOL SCOLIOSIS SCREENING PROGRAM

Administrative Guidelines for School Personnel

DEFINITION

Scoliosis – A lateral and rotary curvature of the spine, most commonly found during the adolescent growth period.

Screening – The U.S. Commission on Chronic Illness defined screening as “The presumptive identification of unrecognized disease or defects by the application of tests, examinations, or other procedures which can be applied rapidly. Screening tests sort out apparently well persons who probably do not have a disease from those who probably do have the disease. A screening test is not intended to be diagnostic. Persons with positive or suspicious findings must be referred to their physicians for diagnosis and necessary treatment.”¹

Scoliosis Screening – Systematic observation of the spine to detect deviations from normal.

LEGAL BASIS

The Pennsylvania Department of Health has adopted regulations requiring each child in grades 6 and 7 and age appropriate (11 and 12 years of age) children in ungraded classes to be screened for scoliosis (Appendix 1).

RATIONALE FOR SCHOOL SCOLIOSIS SCREENING PROGRAM

It is estimated that approximately 4% of school-age children will have a curvature in varying degrees. The effect of scoliosis depends upon its severity, how early it is detected, and how promptly it is treated. Rate of treatment is 2 per 1,000 children in the target age group. Early identification and management of scoliosis is the purpose of the state screening program.

GOAL OF SCHOOL SCOLIOSIS SCREENING PROGRAM

The goal of a mass scoliosis screening program mandated by the Pennsylvania Department of Health’s regulations is the prevention of severe spinal deformity and its consequence.

¹ Commission on Chronic Illness: Chronic Illness in the United States, Vol. 1, Prevention of Chronic Illness, Cambridge. Harvard Press, 1957, p. 45.

PROGRAM IMPLEMENTATION

Planning and Education

Implementation of an effective scoliosis screening program shall include:

1. Public awareness component, which includes:

- what the condition is
- what the program is
- why it is important
- what will be done for whom
- when it will be done

Local media is to be used. Community resources such as local or regional chapter of Easter Seals Society and Scoliosis Association, Inc., may be of assistance in developing public services awareness and news releases concerning the program.

2. Orientation of School faculty/staff, parents, and pupils.

- a. School Faculty-Staff Education – In-service programs are to be made available to all school staff to make them aware of these facts and possible adaptations of the instructional program which may be required for children being treated for spina deviations.
- b. Student Education – Content shall be presented at appropriate grade and developmental levels through health education or other related classes. Related content can be presented through elementary classroom health curricula. Content should include:
 - what scoliosis is
 - how it is detected
 - why it is important to screen
 - what the screening procedure will be
 - what will be done for those with positive findings
 - why it is important to act on those findings
- c. Parent Education – In addition to using the media and public awareness activities to present scoliosis information, a planned education program for parents should be offered. This may be done through Parent-Teacher Association activities, or adult education programs.

- d. Screening Team Education – The scoliosis screening team members should participate in a training workshop before screening program is initiated. The workshop may be presented by physicians, voluntary agencies, or physical therapists in the community. The workshop should include information of the etiology and management of scoliosis, as well as the screening procedure. It is helpful if a practice screening can be held as part of the workshop. Scoliosis information should be reviewed annually by the screening team prior to the screening dates.

The following options may be considered when organizing workshops to facilitate use of community resource personnel:

1. Workshops coordinated through the in-service council in Intermediate Units.
2. Workshops organized jointly for school districts in a county or similar geographic location.
3. Workshops organized for all personnel involved in program planning and implementation within an individual school district.

Scoliosis Screening Program

The school nurse contacts a community health facility to review the scoliosis screening schedule in order to ensure availability of personnel for rescreening (if to be performed by non school personnel) to occur in a timely fashion. The screening program should be conducted as early in the school year as possible to ensure adequate time for follow-up on referred students. A letter is to be sent to parents of children to be screened. The letter should inform parents that school law requires that all children in grades 6 and 7 are to be screened for scoliosis. See sample letter in Appendix 4.

Screening Methodology – Scoliosis screening will consist of an initial screening by school personnel or other community health facility personnel. A second screening of those who appear to deviate from normal shall be performed by someone other than the initial screener, i.e., community personnel, school nurse, school physician.

The same screening procedure will be used for both the initial screening and for those students with positive findings selected for rescreening.

Initial Screening

1. A marker should be placed on the floor. With toes and the marker, each student will be viewed in both the erect standing and forward bend positions. The screener may wish to stand, or be seated, several feet from the marker.
2. With the student standing erect, feet together and arms hanging relaxed at sides, the screener scans the back for obvious abnormalities:
 - a. Are the shoulders level?
 - b. Are the hips level?
 - c. Is one shoulder blade higher, or more prominent than the other?
 - d. Are there unequal distances between the arms and the body?
 - e. Does the spine appear curved?

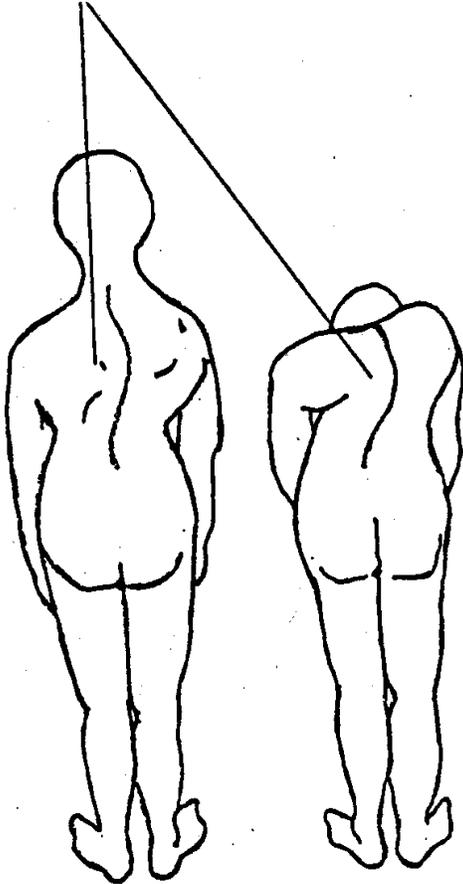
This data is not recorded, but is used as a guide.

3. The student now assumes the forward bend position, bending at the waist to 90°, with fingertips of the hands together. The screener observes for signs of a possible scoliosis:
 - a. Rib hump on either side of the upper back – rib hump
 - b. Rotational hump on either side of the lower back – lumbar rotation
4. The student should be viewed from both the front and the back standing and forward bend positions (see diagram 1).
5. The screener observes for:
 - a. Excessive prominence of thoracic spine; possible Kyphosis.
 - b. Excessive sway back; possible Lordosis.
 - c. Other orthopedic conditions.
 - d. Prominence of sacrum or buttocks.

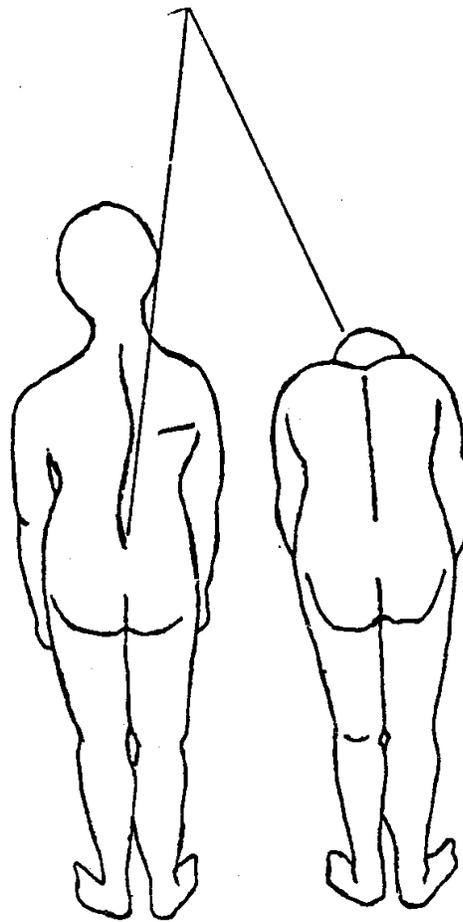
Second Screening (Rescreening) – All students who have positive findings shall be further screened by a more experienced screener prior to referral. It is important that an excess referral rate does not occur. In order to avoid the possibility of unnecessary referral, all students with positive findings in any part of the screening should be rescreened at a separate session by someone other than the original screener.

DIAGRAM 1

Structural Scoliosis



Functional Scoliosis



Adopted from an illustration of Dorothy delBueno, R.N., Ed.D., Assistant Dean for Continuing Education, University of Pennsylvania School of Nursing, Center for Continuing Education, March 10, 1981.

The second screener may be the school nurse, school physician or community health facility physician, nurse or physical therapist.

Record Keeping

The results of the initial screening may be recorded on class lists or other data collection tools the screener(s) may want to use. As observations are made by the screener(s) notations of any deviations from normal are made on the data collection tool.

Results of the second screening (rescreening) may be recorded on the class lists or on other data collection tools the screening may want to use.

The results of both screenings shall be recorded on the student's school health record.

Referral and Case Management

Following the rescreening program, those students with positive findings should be referred for a physician evaluation. A positive rib hump in the forward bend position is the major criterion for scoliosis referral (see Diagram 1). The other observations made by the screener are merely supportive of the rib hump finding.

In most cases, it will be helpful to speak with those students to allay their fears and encourage their cooperation. It will also be helpful to call each parent to describe the screening procedure and encourage physician evaluation. The "Parent-Physician Letter" should reflect the screener's findings (Appendix 5). A checklist is provided on the form in the left-hand column. This form is to be signed by both the school nurse and the physical therapist or other qualified rescreener.

Screening Options

The following are offered as possible screening options which individual school districts may use to facilitate scheduling of pupils and staff time. Screening options include, but are not limited to the following:

1. Screen as part of physical examinations at the mandated grades.
2. Screen as part of physical examinations for interscholastic sports participation, working papers other than newspaper carrier permits, or other such activities.
3. Screen as part of a nursing assessment package, i.e., with other required screenings.
4. Screen as a separate activity by class or grade.

Screening Sites

1. The screening area should be located where the students can change clothing in privacy, yet be close to the screening station.
2. At the time the screening is in process, the area selected should not be used for anything other than the screening activity.
3. The area selected should be warm, well-lighted level floor, and permit screening.
4. The screening stations should be equipped with a chair and desk or table for each screener. Information must be recorded as the screening is being done.
5. Place a tape of the floor of each station to indicate where the student should stand during screening.

Preparation of Students for Screening

1. Explanation of the screening procedure.
2. Boys and girls should be screened separately.
3. Boys should strip to the waist.
4. Girls should wear a bra, bathing suit top, or halter under a blouse or sweater. Girls should remove heeled shoes.

Reporting

Every school district shall submit to the Pennsylvania Department of Health aggregate information regarding the scoliosis screening program as specified in the annual "Request for Reimbursement and Report of School Health Services." Complete an original and a copy.

Submit to:

Division of School Health
Pennsylvania Department of Health
P.O. Box 90
Harrisburg, PA 17108

Scoliosis Screening
Selected Bibliography

ETIOLOGY AND GENERAL INFORMATION

- Cailliet, Rene, Scoliosis: Diagnosis and Management. Philadelphia: F.A. Davis Company, 1975.
- DeToledo, C., "The Defect: Classification and Detection," American Journal of Nursing, 79(9): 1588, September 1979.
- Harrington, P.R., "The Etiology of Idiopathic Scoliosis," Clinical Orthopedics and Related Research, 126:17, July – August, 1997.
- Keim, H.A., "Back Deformities," Pediatric Clinics of North America, 24(4):871, November, 1977.
- Rogala, E.J., et al., "Scoliosis: Incidence and Natural History," Journal of Bone and Joint Surgery, 60 (2):173, March, 1978.
- Rothman, R., et al., The Spine. Philadelphia: W.B. Saunders Company, 1982.

SCREENING

- Berwick, D.M., "Scoliosis Screening," Pediatrics in Review, 5(8):238, February, 1984.
- Dunn, B.H., et al., "Scoliosis Screening," Pediatrics in Review, 5(8):238, May, 1978.
- Harrison, C.S., et al., "Early Recognition of Scoliosis," Pennsylvania Medicine, 80(3):51, March, 1977.
- Kane, W.J., et al., "Scoliosis and School Screening for Spinal Deformity," American Family Physician, 17(5):123, May, 1978.
- Lonstein, J.E., et al., "Voluntary School Screening for Scoliosis in Minnesota," Journal of Bone and Joint Surgery, 64-A:481, 1982.
- Shipman, C.F., "Screening Criteria and Idiopathic Adolescent Scoliosis," The Journal of Family Practice, 8(3):447, 1979.

TREATMENT

- Anderson, B., "Carole, a Girl Treated with Bracing," American Journal of Nursing, 79(9):1592, September, 1979.
- Blount, W.P., Moe, J.H. The Milwaukee Brace. Baltimore: The Williams and Wilkins Company, 1973.

Eckerman, L.F., Axelgaard, J., "Lateral Electrical Surface Stimulation as an Alternate to Bracing in the Treatment of Idiopathic Scoliosis," Physical Therapy, 64(4):483, April, 1984.

Faraday, J.A., "Current Principles in the Nonoperative Management of Structural Adolescent Idiopathic Scoliosis," Physical Therapy, 63(4):512, April, 1983.

Micheli, J., et al., "Surgical Management and Nursing Care," American Journal of Nursing, 79(9):1699, September, 1979.

Ogilvie, J.W., "Conservative Management of Childhood Scoliosis," The Journal of Musculoskeletal Medicine, 1(4):67, March 1984.

Schatzinger, L., et al., "Spinal Fusion: Emotional Stress and Adjustment," American Journal of Nursing, 79(9):1608, September, 1979.

Torrell, G., et al., "The Changing Pattern of Scoliosis Treatment Due to Effective Screening," Journal of Bone and Joint Surgery, 63A:337, 1981.

FICTION

Blume, Judy. Deenie. New York: Dell Publishing, 1978.

Sohrabi, Louise. The Crooked Journey. California: Rima Press, 1984.

Resources

Pamphlet

“Scoliosis...How Does It Affect You?”

Commonwealth of Pennsylvania
Department of Health
Division of School Health
P.O. Box 90
Harrisburg, Pennsylvania 17108

Scoliosis Associations

The Scoliosis Association, Inc.

P.O. Box 811705
Boca Raton, FL 33481-1705
Toll-free: (800) 800-0669
Telephone: (561) 994-4435
Fax: (561) 994-2455
Web Address: www.scoliosis-assoc.org

Scoliosis Research Society

6300 North River Road
Suite 727
Rosemont, IL 60018-4226
Telephone: (847) 698-1627
Fax: (847) 823-0536
Web Address: www.srs.org

The National Scoliosis Foundation, Inc.

5 Cabot Place
Stoughton, MA 02072
Toll-free: (800) 673-6922
Telephone: (781) 341-6333
Fax: (781) 341-8333
Web Address: www.scoliosis.org

Additional Websites

Spine Universe

Web Address: www.SpineUniverse.com

Orthospine

Web Address: www.orthospine.com

APPENDICES

	<u>Page</u>
Appendix 1 – Regulations of the Pennsylvania Department of Health	12
Appendix 2 – School Health Consultants (listing with counties)	13
Appendix 3 – Qualification Standards for Initial and Secondary Screening for Scoliosis.....	14
Appendix 4 – Parent Information Letter (Sample)	15
Appendix 5 – Required Form – Parent-Physician Letter and Instructions	16

§ 23.10. Scoliosis screening.

(a) *Scope.* Screening for scoliosis shall be included in school health programs. Scoliosis is an appreciable lateral deviation of the normally straight vertical line of the spine or one or more lateral rotary curvatures of the spine.

(b) *Pupils to be tested.* A scoliosis screening test shall be administered to students in grade six and grade seven and to age-appropriate students in ungraded classes.

(c) *Testing methods.* Scoliosis screening shall be conducted in accordance with administrative and professional guidelines by personnel who meet the qualifications standards adopted by the Secretary of Health and the Secretary of Education.

(d) *Exceptions.* Students who are under observation or care for scoliosis by a physician or students whose parents object in writing to the screening need not be tested.

(e) *Standards.* The Department of Health will issue administrative guidelines to schools to assure compliance with this section. Results of this screening shall become part of the pupil's school health record.

(f) *Evaluation.* Data from the screening program will be evaluated in 5 years, and the need for its continuation will be considered.

Authority

The provisions of this § 23.10 issued under sections 2102(g) and 2111(b) of The Administrative Code of 1929 (71 P. S. § § 532(g) and 541(b)); section 1402(a) and (f) of the Public School Code of 1949 (24 P. S. § 14-1402(a) and (f)); and section 6 of the Disease Prevention and Control Law of 1955 (35 P. S. § 521.16).

Source

The provisions of this § 23.10 amended June 11, 1982, effective September 1, 1982, 12 Pa.B. 1819. Immediately preceding text appears at serial page (6928).

Cross References

This section cited in 22 Pa. Code § 7.13 (relating to health services); and 22 Pa. Code § 23.21 (relating to general).

**BUREAU OF COMMUNITY HEALTH SYSTEMS
DIVISION OF SCHOOL HEALTH
SCHOOL HEALTH CONSULTANTS**

NORTHEAST DISTRICT**SHC: Patricia Montalbano**665 Carey Avenue, Suite 5
Wilkes-Barre PA 18706-5485**Phone** – 570-826-2062**Fax** – 570-826-2238**Email**- pmontalban@state.pa.us**COUNTIES**

Carbon	Northampton
Lackawanna	Pike
Lehigh	Susquehanna
Luzerne	Wayne
Monroe	Wyoming

SOUTHEAST DISTRICT**SHC: Elizabeth Sheriff**Reading State Office Building
625 Cherry Street
Reading PA 19602-1187**Phone** – 610-378-4352**Fax** – 610-378-4527**Email**- esheriff@state.pa.us**COUNTIES**

Berks	Lancaster
Bucks	Montgomery
Chester	Philadelphia
Delaware	Schuylkill

NORTHCENTRAL DISTRICT**SHC: Deborah Fontaine**Water Tower Square, Suite 109
1000 Commerce Park Drive
Williamsport PA 17701**Phone** – 570-327-3400**Fax** – 570-327-3748**Email** – dfontaine@state.pa.us**COUNTIES**

Bradford	Northumberland
Centre	Potter
Clinton	Snyder
Columbia	Sullivan
Lycoming	Tioga
Montour	Union

SOUTHCENTRAL DISTRICT**SHC: M. Judith Garner**30 Kline Plaza
Harrisburg PA 17104**Phone** – 717-787-8092**Fax** – 717-772-3151**Email** – mgarner@state.pa.us**COUNTIES**

Adams	Huntingdon
Bedford	Juniata
Blair	Lebanon
Cumberland	Mifflin
Dauphin	Perry
Franklin	York
Fulton	

NORTHWEST DISTRICT**SHC: Linda Deeter**19 McQuiston Drive
Jackson Center PA 16133**Phone** – 724-662-6068**Fax** – 724-662-6086**Email** – lideeter@state.pa.us**COUNTIES**

Cameron	Jefferson
Clarion	Lawrence
Clearfield	McKean
Crawford	Mercer
Elk	Venango
Erie	Warren
Forest	

SOUTHWEST DISTRICT**SHC: Cynthia Thomas**514 State Office Building
300 Liberty Avenue
Pittsburgh PA 15222-1210**Phone** – 412-565-5101**Fax** – 412-565-7582**Email** – cythomas@state.pa.us**COUNTIES**

Allegheny	Greene
Armstrong	Indiana
Beaver	Somerset
Butler	Washington
Cambria	Westmoreland
Fayette	

Qualification Standards for
Initial and Secondary Screening for Scoliosis

INITIAL SCREENING

1. Attendance at one training or in-service program on scoliosis screening.
2. Observed and conducted initial screening under supervision of physician, physical therapist, or other qualified personnel.

SECONDARY SCREENING

1. Observed and conducted secondary screening under supervision of qualified personnel.

NOTE: Examination for scoliosis when performed by school physician, family physician, or approved school nurse practitioner as part of the sixth grade examination need not be repeated as a separate screening procedure nor is a second screening required.

SAMPLE
PARENT INFORMATION LETTER

Dear Parent/Guardian:

School law requires that a screening for scoliosis be performed on all children in grades 6 and 7.

The _____ School District will conduct a scoliosis screening program on _____. The purpose of the screening program is to detect possible curvature of the spine in children. If the condition is detected early and appropriately treated, progressive spinal deformity may be prevented.

The screening test is very simple and can be performed in less than a minute. A trained screener will check your child's back by observing it while your child is standing and bending forward. You will be contacted if there is any reason to have your child examined by your pediatrician, family physician, or orthopedist.

To assure a view of the spine, we will request that students expose their backs during screening. It is recommended that boys wear a shirt that can be easily removed. Girls should wear a bra, bathing suit top, or halter-top under a blouse or sweater.

Your cooperation is essential to help us make the program run smoothly. If you have any objections to having your child participate in the screening program, please inform the school nurse in writing by _____.

Sincerely,

School nurse

REFERRAL OF CHILDREN WITH POSITIVE FINDINGS – “Parent-Physician” Letter

- A. Letter to parent – self explanatory.
- B. The school nurse or other qualified screener must complete the Observations at Screening portion of the “Parent-Physician” letter as soon as possible after the rescreening, for each child with positive findings to be referred for a physician examination. Parents of students identified through the screening process as having possible scoliosis will receive the letter which encourages further medical evaluation of the child.
- C. Examining physician completes the bottom portion, (Physician’s Findings) of the “Parent-Physician” Letter. The child’s parents return the form to the school nurse after the child has been examined. The information recorded under Examination and Recommendations section of the letter will be used for case management and annual reporting.