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# The Basics of Federal Black Lung Litigation

Samuel J. Smith  
*United States Department of Labor*

Ford F. Newman  
*United States Department of Labor*

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## THE BASICS OF FEDERAL BLACK LUNG LITIGATION

SAMUEL J. SMITH\*  
FORD F. NEWMAN\*\*

To be successful, attorneys must acquire certain basic skills and knowledge in their respective areas of expertise. Additionally, attorneys must participate in continuing legal education to maintain these basic skills and knowledge. This is especially true for federal black lung attorneys due to the dynamic nature of the law in this area.

Federal black lung law has changed dramatically since the original enactment of Title IV of the Federal Coal Mine Health and Safety Act of 1969.<sup>1</sup> Since its passage in December 1969, the Act has been substantially amended twice, first by the Black Lung Benefits Act of 1972 (BLBA),<sup>2</sup> and more recently, by the Black Lung Benefits Reform Act of 1977 (BLBRA).<sup>3</sup> Each of

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\*Chief Administrative Appeal Judge, Benefits Review Board, United States Department of Labor.

\*\*Assistant Senior Division Attorney, Longshore/Black Lung Division, Benefits Review Board, United States Department of Labor.

*Ed. note.* This article deals extensively with the medical evidentiary requirements for establishing eligibility under the Federal Black Lung Program. Some familiarity, on the reader's part, with the medical aspects of CWP and the various medical issues that may arise in black lung litigation is presumed. The novice black lung attorney and others who lack a sufficient understanding of these medical issues should see Lapp, *A Lawyer's Medical Guide to Black Lung Litigation*, 83 W. VA. L. REV. 721 (1981).

<sup>1</sup> Federal Coal Mine Health and Safety Act of 1969, Pub. L. No. 91-173, 401-426, 83 Stat. 852 (all but Title IV now merged into the Federal Mine Safety and Health Act of 1977 (FMSHA), Pub. L. No. 95-164, 91 Stat. 1290 (altogether codified at 30 U.S.C. §§ 901-945 (1976, Supp. I 1977 & Supp. II 1978). [hereinafter cited as the Act or FCMHSA]. Title IV of the Act is popularly referred to in the coal mining areas as "The Black Lung Act" or "The Black Lung Law." For a detailed history of the Act, see J. STRADER AND P. SHEEKE, *FEDERAL BLACK LUNG: TEN YEARS OF LEGISLATION AND LITIGATION*, Presented to the Workers' Compensation and Employer's Liability Committee, American Bar Association Annual Meeting (1980).

<sup>2</sup> Black Lung Benefits Act of 1972, Pub. L. No. 92-303, 86 Stat. 150 (codified at 30 U.S.C. §§ 901-941 (1976)) [hereinafter referred to as BLBA or 1972 Act].

<sup>3</sup> Black Lung Benefits Reform Act of 1977, Pub. L. No. 95-239, 92 Stat. 95 (amending and redesignating FCMHSA, tit. IV, §§ 401-426, 30 U.S.C. §§ 900-936

these legislative enactments have been followed by the enactment of voluminous regulations seeking to interpret and clarify the legislative intent of Congress.<sup>4</sup> Furthermore, responsibility for the administration of the Act has been transferred from the Department of Human Services<sup>5</sup> to the Department of Labor.<sup>6</sup> With this transfer, claims adjudication procedures have changed dramatically in that what formerly was a non-adversarial action by a claimant against the Federal Disability Insurance Trust Fund,<sup>7</sup> has been transformed into a full adversarial proceeding involving private operator liability.<sup>8</sup> Apart from these developments in the law and its administration, the science and practice of occupational lung disease medicine here in the United States has experienced great advances during the past ten years. These medical advances have had a great impact upon the Act.

To represent a client effectively in light of this state of change, the federal black lung practitioner must have command of the facts of his or her case as well as a solid foundation of knowledge in the Act, its regulations, and pulmonary medicine. The typical black lung case presents issues of law; issues of fact; medical issues; and issues which are a mixture of law, fact, and medicine. To provide within the pages of a single article all the basics that the skilled attorney needs to know about each of these issues is an ambitious undertaking; yet, this article will seek to identify the basic knowledge which the federal black lung practitioner should command with respect to each issue. To facilitate understanding and to provide adequate coverage of each of these issues, this article has been organized into two

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(Supp. I 1977)) (codified at 30 U.S.C. §§ 901-945 (Supp. II 1978)) [hereinafter referred to as BLBRA or 1977 Act]. Notwithstanding this redesignation, references and citations to Title IV as amended shall continue to be to the relevant section or sections of the Act unless such section or sections only occur as provisions of the BLBRA.

<sup>4</sup> See 20 C.F.R. §§ 410.101-699, 715.1-301, 718.1-2, 720.100-444, 725.1-552 (1978); 20 C.F.R. §§ 718.1-404, 725.1-711 (1980).

<sup>5</sup> The Department of Human Services was formerly known as the Department of Health, Education, and Welfare.

<sup>6</sup> 30 U.S.C. § 902(c) (1976) requires administration by the Department of Labor for claims filed after December 31, 1973, under §§ 431-36 of the FCMHSA.

<sup>7</sup> 30 U.S.C. § 923(b) (1976).

<sup>8</sup> 20 C.F.R. § 725.452 (1980). Hearings in Black Lung cases are conducted by United States Administrative Law Judges pursuant to the Administrative Procedures Act, 5 U.S.C. §§ 551-559 (1976).

general sections. Part I discusses the Act and its permanent regulations,<sup>9</sup> and Part II discusses black lung pulmonary medicine. The footnotes, especially those in the section on medicine, have been chosen for further reading by the black lung practitioner.

## I. BASIC BLACK LUNG LAW AND REGULATIONS

To become an accomplished and successful black lung practitioner, it is necessary that the attorney have a full understanding of the basic requirements for entitlement to black lung benefits. For a claimant to be entitled to benefits under the Act, he or she must establish that (1) the miner is *totally disabled*, (2) the total disability is *due to pneumoconiosis*, (3) the pneumoconiosis *arose out of employment in the Nation's Coal mines*, or that (4) the miner's *death was due to pneumoconiosis*.<sup>10</sup> The Act and its accompanying regulations provide definitional materials, medical criteria and legal presumptions which give form and substance to these basic elements. To successfully assert or defend a black lung claim, an attorney must know and understand the basic elements of the case and be familiar with the definitions, medical criteria, and pertinent presumptions, which aid the claimant in establishing entitlement under the Act.

### A. Coal Workers' Pneumoconiosis

A logical starting point in any black lung case is for the practitioner to assess whether the existence of pneumoconiosis can be established by the evidence of record. Coal Workers' Pneumoconiosis (CWP) is defined by the Act as: "A chronic dust disease of the lung and its sequelae, including respiratory and pulmonary impairments arising out of coal mine employment."<sup>11</sup>

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<sup>9</sup> All reference to regulations in this article will be to the permanent regulations found at 20 C.F.R. § 718.1-404 (1980) which became effective March 31, 1980. Discussion of the Secretary's "interim criteria," 20 C.F.R. Part 727 (1980), is not included within the scope of this article. The "interim criteria" are applicable to all claims subject to review pursuant to section 435 of the Act, 30 U.S.C. § 945 (Supp. II 1978) and claims filed on or before the effective date of the new Part 718 regulations (March 31, 1980). 30 U.S.C. § 902(f)(2) (Supp. II 1978). See generally Note, *Evidentiary Requirements To Prove A Claim For Black Lung Benefits: Impact Of The Black Lung Benefits Reform Act Of 1977*, 82 W. VA. L. REV. 1425 (1980).

<sup>10</sup> 30 U.S.C. § 901(a) (Supp. II 1978).

<sup>11</sup> 30 U.S.C. § 902(b) (Supp. II 1978).

However, this is a legal definition rather than a medical one. There has been and continues to be considerable disagreement on the proper definition of CWP among medical experts. Some of this disagreement may be attributable to the fact that the term pneumoconiosis literally means dust in the lungs.<sup>12</sup>

The most widely accepted medical definition of pneumoconiosis is that of the International Labour Organization, which provides: "Pneumoconiosis is the accumulation of dust in the lungs and the tissue reaction to its presence."<sup>13</sup> CWP, or "black lung" as it is commonly known in the coal mining areas, is not a single disease process but a composite of multiple disorders, each of which may vary in incidence and severity from one patient to another. The Act's definition has been designed so expansively that virtually any chronic dust disease of the lung may be considered "black lung" for purposes of obtaining compensation under the Act.<sup>14</sup> In reconciling this expansiveness, the practitioner must realize that the Act is a hybrid, representing a mixture of both social and occupational disease legislation and was not intended to resolve, but rather to sweep aside, the controversies and uncertainties of the medical profession regarding CWP. Congress clearly resolved these issues in favor of the coal mining population.<sup>15</sup>

Once the practitioner has learned what pneumoconiosis is he must look to the regulations for the methods of establishing the existence of the disease. First, the practitioner must distinguish between *true/clinical* and *presumed* pneumoconiosis. The existence of *true* pneumoconiosis is established through the pre-

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<sup>12</sup> Morgan & Lapp, *Disease of the Airways and Lungs*, in OCCUPATIONAL DISEASES 112 (U.S. Dep't. of H.E.W. 1977) [hereinafter cited as Morgan & Lapp].

<sup>13</sup> *Id.*

<sup>14</sup> See 30 U.S.C. § 902(b) (Supp. II 1978); 20 C.F.R. § 718.201 (1980). See generally, Kleinerman, *Pathology Standards for Coal Workers' Pneumoconiosis*, 103 ARCH. PATH. & LAB. MED. 375 (1979); 4A ATTORNEY'S TEXTBOOK OF MEDICINE 205-4 to 205-5 (1976).

<sup>15</sup> An example of the liberal eligibility provisions of the Act which are the subject of debate among operators, the government, and miners' organizations is the interim presumption. See Solomons, *A Critical Analysis of the Legislative History Surrounding the Black Lung Interim Presumption and a Survey of Its Unresolved Issues*, 83 W. VA. L. REV. 869 (1981). *infra*. See also Millstone & Qodinach, *The Survivors' 25-Year Presumption Under the Black Lung Benefits Reform Act of 1977: A Case for Its Unconstitutionality*, 82 W. VA. L. REV. 1079 (1980).

sentation of objective medical evidence, for example, an X-ray, biopsy, autopsy, or a reasoned medical opinion based on objective medical evidence.<sup>16</sup> *Presumed* pneumoconiosis, on the other hand, can be established by a miner with fifteen years of coal mine employment with proof of the existence of a totally disabling chronic respiratory or pulmonary impairment.<sup>17</sup> The methods by which the existence of pneumoconiosis can be established, are contained in 20 C.F.R. § 718.202.<sup>18</sup>

In attempting to establish the existence of pneumoconiosis by chest X-ray, the practitioner must insure that the X-ray evidence conforms with the requisite quality standards.<sup>19</sup> Furthermore, the chest X-ray film must be made available to the Office of Workers' Compensation Programs (OWCP).<sup>20</sup>

In most claims, the evidentiary record consists of a myriad of conflicting X-ray reports, the dates of which range over a broad period of time. In evaluating these conflicting X-ray reports, the adjudicator must consider the radiological qualifications of the physicians interpreting such X-rays.<sup>21</sup> Thus, the practitioner should obtain X-ray interpretations from the most highly qualified radiologist.<sup>22</sup>

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<sup>16</sup> 20 C.F.R. §§ 718.202(a)(1), -(2), and -(4) (1980).

<sup>17</sup> 30 U.S.C. § 921(c)(4) (Supp. II 1978); 20 C.F.R. § 718.305 (1980). This section is commonly known as the "fifteen year presumption." See *Ansel v. Weinberger*, 529 F.2d 304, 309-10 (6th Cir. 1976).

<sup>18</sup> 20 C.F.R. § 718.202 (1980). Sections 718.202(a)(1), (2) and (4) provide methods by which the existence of CWP can be established clinically. Section 718.202(a)(3) incorporates by reference the methods by which *presumed* CWP can be established. The regulatory language of section 718.202(a)(3) appears to be somewhat misleading. 20 C.F.R. §§ 718.304, .305 and .306 are incorporated by reference. Section 718.305 is clearly a method of establishing "presumed" pneumoconiosis. However, section 718.304 contains an irrebutable presumption of total disability upon a *clinical* showing of complicated pneumoconiosis. Section 718.306 contains a presumption of *entitlement* which might connote that the existence of pneumoconiosis is presumed. This latter presumption may be rebutted by a showing that the miner did not have pneumoconiosis.

<sup>19</sup> 20 C.F.R. §§ 718.102, -718 app. A (1980).

<sup>20</sup> 20 C.F.R. § 718.102(d) (1980). Though under certain circumstances, the OWCP is prohibited from submitting X-rays for reinterpretation, see 30 U.S.C. § 923(b) (Supp. II 1978) and text accompanying notes 25-28 *infra.*, nothing in the Act or the regulations prohibits the OWCP from submitting any X-ray to a radiologist for *qualitative* analysis.

<sup>21</sup> 20 C.F.R. § 718.202(a)(1) (1980).

<sup>22</sup> See 20 C.F.R. § 718.202(a)(1)(ii)(E) (1980). Readers' ratings are given by the National Institute of Occupational Safety and Health, United States Public Health

The practitioner, however, should not automatically concede this issue concerning interpretor qualification simply because the opposing parties' radiologists are more qualified. The adjudicator is not bound to accept a "B" reader's interpretation but may choose to resolve the conflicting X-ray evidence based on other factors. For instance, it has been held that because pneumoconiosis is a progressive and irreversible disease, the most recent chest X-rays, particularly when conflicting X-rays are separated by one to two years, should be given greater probative weight.<sup>23</sup> This rationale should not be carried beyond the point of reason. Obviously, in a case in which two conflicting chest X-rays are separated in time by two weeks rather than two years, resolution of the conflict should not be based on the recency of the X-rays.<sup>24</sup>

The 1977 Act (BLBRA) added a new provision to the statute, commonly called the X-ray re-reading prohibition.<sup>25</sup> In a claim in which there is other evidence of a respiratory or pulmonary impairment, a Board-certified or Board-eligible radiologist's interpretation of a chest X-ray shall be accepted by the OWCP provided: (1) the X-ray meets the Secretary's quality standards, (2) the X-ray was taken by a radiologist or other qualified radiologic technologist or technician, and (3) there is no evidence that the claim has been fraudulently represented.<sup>26</sup>

The X-ray re-reading prohibition prevents the Secretary from submitting any X-ray re-reading procured by him as evidence against the existence of CWP regardless of whether the re-reading was procured prior to the effective date of the BLBRA. However, the legislative history of the BLBRA makes

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Service. 42 C.F.R. § 37.51 (1979). Physicians can be certified as "A" (first) or "B" (final) readers according to their proficiency in interpreting coal miners' chest roentgenograms under the International Labor Organization/University of Cincinnati (1971) (ILO—U/C) classification of radiographs of the pneumoconioses. A "B" rating denotes a reader of greater experience and proficiency, and the reading of a "B" reader may be given additional weight by the adjudication officer. *Sharpless v. Califano*, 585 F.2d 664 (4th Cir. 1978).

<sup>23</sup> *Travis v. Peabody Coal Co.*, [1978] 7 BRBS (M-B) 167, 172-73, BRB No. 76-117 BLA; *aff'd sub nom. Peabody Coal Co. v. Director*, 615 F.2d 1361 (6th Cir. 1980).

<sup>24</sup> *Gleza v. Ohio Mining Co.*, [1979] 10 BRBS (M-B) 597, 601, BRB NO. 77-296 BLA.

<sup>25</sup> 30 U.S.C. § 923(b) (Supp. II 1978).

<sup>26</sup> 20 C.F.R. § 718.202(a)(1)(i) (1980).

it clear that a coal operator may contest a claimant's proffered X-ray evidence or seek a new X-ray.<sup>27</sup> Thus, the coal operator may procure and submit re-readings as evidence against the existence of CWP. While, by implication, the operator may submit re-reading procured by the Secretary prior to the BLBRA, the operator may never submit re-readings obtained by the Secretary after the BLBRA due to their nature as "fruit of the poisonous tree."<sup>28</sup>

Reports of biopsies or autopsies may also establish the existence of pneumoconiosis provided the biopsy or autopsy is conducted and reported in compliance with the Secretary's quality standards.<sup>29</sup> However, a negative biopsy is not conclusive evidence that the miner does not have pneumoconiosis.<sup>30</sup>

The regulations also provide that a determination of the existence of pneumoconiosis may be based on a physician's reasoned medical opinion despite the existence of a negative chest X-ray of record.<sup>31</sup> Such a diagnoses must represent the exercise of sound medical judgment and be based on objective medical evidence such as blood gas studies, electrocardiograms, pulmonary function studies, physical performance tests, physical examinations and medical work histories.<sup>32</sup> Tactically speaking, when a totally disabling impairment has been demonstrated on the basis of objective tests and no significant factors other than coal mine dust exposure are shown to exist, a diagnosis of pneumoconiosis can be made by exclusion.<sup>33</sup>

Probably the most common method of establishing the existence of pneumoconiosis is section 921(c)(4) of the Act.<sup>34</sup> This section provides that the existence of totally disabling pneumoconiosis will be rebuttably presumed, if a miner with fifteen years of qualifying coal mine employment can prove the existence of a totally disabling chronic respiratory or pulmonary

<sup>27</sup> 124 CONG. REC. 2330, 2334 (1978) (remarks of Sen. Javits).

<sup>28</sup> *Tobias v. Republic Steel Corp.*, BRB No. 80-1114 (Feb. 6, 1981).

<sup>29</sup> 20 C.F.R. § 718.202(a)(2) (1980).

<sup>30</sup> *Id.* § 718.106(c) (1980).

<sup>31</sup> *Id.* § 718.202(a)(4) (1980).

<sup>32</sup> *Id.*

<sup>33</sup> *See* 20 C.F.R. § 718.202, *Discussion and changes (h)*, 45 Fed. Reg. 13,678, 13,687 (1980).

<sup>34</sup> 30 U.S.C. § 921(c)(4) (Supp. II 1978); 20 C.F.R. § 718.305.



impairment.<sup>35</sup> In simplified terms, to qualify for the section 921(c)(4) presumption, the claimant must have at least fifteen years of coal mine employment; to invoke the presumption, the claimant must prove the existence of a totally disabling lung impairment.<sup>36</sup> Claimant's need not be concerned with the etiology of the lung impairment as a prerequisite to invocation of this presumption.<sup>37</sup> The presumption can be rebutted only if the party opposing entitlement proves that the claimant's lung impairment has a non-compensable etiology.<sup>38</sup> More specifically, the presumption can be rebutted only by (1) establishing that the miner does not, or did not, have pneumoconiosis, or (2) that his or her respiratory or pulmonary impairment did not arise out of, or in connection with, employment in a coal mine.<sup>39</sup>

### B. Total Disability

When basing entitlement on a *clinical* showing of pneumoconiosis, total disability must be proven as a separate element. As demonstrated above, proof of total disability is also a prerequisite to establishment of *presumed* pneumoconiosis.

To establish total disability under the Act,<sup>40</sup> it is not necessary that the miner be incapable of undertaking gainful employment of any kind or that the miner have absolutely no wage-earning capacity. Rather, a miner is considered totally disabled if pneumoconiosis prevents the miner from performing either (1) his or her usual coal mine work or (2) any gainful employment in the immediate area of his or her residence which requires skills and abilities comparable to those used by the

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<sup>35</sup> *Id.*

<sup>36</sup> To establish the existence of a totally disabling respiratory or pulmonary impairment such as to trigger the section 411(c)(4) presumption pursuant to 20 C.F.R. §§ 410.101-699 (1978), a claimant had to show that the respiratory or pulmonary impairment was the *primary cause* of the miner's disability. *Gastineau v. Mathews*, 577 F.2d 356, 358 (6th Cir. 1978). There is no apparent reason why this same requirement should not be imposed under the new Part 718 regulations.

<sup>37</sup> A claimant need not show that the totally disabling respiratory impairment forming the basis of his claim under section 411(c)(4) is primarily caused by pneumoconiosis since such a rule would obviate the advantage intended by the presumption. *Rogers v. Ziegler Coal Co.*, [1978] 9 BRBS (M-B) 62, 69, BRB No. 77-195 BLA.

<sup>38</sup> *United States Steel Corp. v. Gray*, 588 F.2d 1022, 1028 (5th Cir. 1979).

<sup>39</sup> *Id.*

<sup>40</sup> 30 U.S.C. § 902(f)(1)(A) (Supp. II 1978); 20 C.F.R. § 718.204(b) (1980).

miner in other mine employment with some regularity over a substantial period of time.<sup>41</sup>

While the Act's failure to expressly provide for partial disability distinguishes it from traditional workers' compensation law,<sup>42</sup> compensation for partial disability is accomplished through application of the Act's liberal definition of total disability. For example, if a miner is partially disabled, that is, the miner's ability to perform his or her usual coal mine work or comparable and gainful work is merely reduced,<sup>43</sup> the Act effectively considers the miner unable to perform such work and therefore totally disabled.<sup>44</sup> Thus, if a miner's regular work activity is characterized by poor job performance, frequent absences, marginal earnings and/or makeshift work, the miner will be found totally disabled without consideration of whether there might be less arduous work at a lower wage which the miner might be able to perform.<sup>45</sup>

Because total disability is framed in terms of work capability, the attorney must be aware that it is impossible for a physician to make a legally meaningful assessment of total disability without knowledge of and reference to the miner's usual coal mine work. In pursuing or defending a claim, the astute lawyer will be sure that the medical reports refer to the miner's work history and relate it to the total disability issue. However, because this type of assessment is so rarely present in medical reports and more importantly, to aid the adjudicator in converting the raw medical data showing the extent of lung impairment into a disability assessment, the regulations provide a set of objective medical criteria which, if met, will establish total disability for purposes of entitlement under the Act.

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<sup>41</sup> *Id.*

<sup>42</sup> The scope of the Act is clearly set forth in 30 U.S.C. § 901(a) (Supp. II 1978). 30 U.S.C. § 921(c)(5) (Supp. II 1978), introduces the concept of partial disability to the Act. However, "partial disability" is not a triggering element of the section 411(c)(5) presumption of entitlement. Partial disability, or the lack thereof, comes into play only on rebuttal. *See* 20 C.F.R. §§ 718.306(b), (c) (1980) and text accompanying notes 66-70, *infra*.

<sup>43</sup> At least for the purposes of section 921(c)(5) partial disability is defined as reduced ability to engage in usual coal mine work or comparable and gainful work. 20 C.F.R. § 718.306(b) (1980).

<sup>44</sup> *See* 20 C.F.R. § 718.204(e) (1980).

<sup>45</sup> *See* *Felthager v. Weinberger*, 529 F.2d 130, 133 (10th Cir. 1976); *Mondragon v. C.F. & I. Steel Corp.*, [1977] 7 BRBS (M-B) 202, BRB No. 77-221 BLA.

A claimant can establish total disability, in the absence of contrary probative evidence, by meeting either the criteria set forth in Appendix B of Part 718 for pulmonary function tests or the criteria set forth in Appendix C of Part 718 for arterial blood gas test.<sup>46</sup> Total disability can also be established by showing the existence of cor pulmonale with right sided congestive heart failure.<sup>47</sup>

If none of the above methods prove successful, total disability may still be established by the opinion of a "physician exercising reasoned medical judgment, based on medically acceptable clinical and laboratory diagnostic techniques, . . ."<sup>48</sup> If the practitioner attempts to establish total disability on this basis, the physician must be encouraged to refer to the claimant's ability to perform usual coal mine work or comparable and gainful work in framing his conclusions. Otherwise, the physician's opinion may not form a sufficiently rationalized basis to support a conclusion on the issue of total disability. A well rationalized finding that the miner has no lung impairment, even without reference to claimant's work capabilities, is tantamount to a finding that the claimant is capable of performing his usual coal mine work.<sup>49</sup>

The employer's counsel should anticipate that once a claimant has shown through reasoned medical opinion that he is unable to perform his usual coal mine employment, the argument will be made that it then becomes the burden of the opposing party, in an effort to defeat entitlement, to prove the availability of comparable and gainful employment.<sup>50</sup>

Section 718.204(c) does not contain all of the methods by which total disability can be established under the Act. If a miner, or the survivor of a deceased miner, is able to prove the existence of complicated pneumoconiosis, total disability or

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<sup>46</sup> 20 C.F.R. §§ 718.204(c)(1), (2) (1980).

<sup>47</sup> 20 C.F.R. § 718.204(c)(3) (1980); see 4A ATTORNEY'S TEXTBOOK OF MEDICINE 205-74 for a definition and discussion of cor pulmonale; see also Lapp, *A Lawyer's Medical Guide to Black Lung Litigation*, *supra*, ed. note.

<sup>48</sup> 20 C.F.R. § 718.204(c)(4) (1980).

<sup>49</sup> See *Sykes v. Itmann Coal Co.*, BRB No. 79-396 BLA/A (Oct. 31, 1980); *Johnson v. Cannelton Industries, Inc.*, BRB No. 79-261 BLA (Oct. 31, 1980).

<sup>50</sup> See *Fletcher v. Appalachian Coal Co.*, [1978] 9 BRBS (M-B) 342, 349, BRB No. 78-301 BLA (Smith, dissenting), which was decided under the Part 410 regulations.

death due to pneumoconiosis is *irrebuttably* presumed.<sup>51</sup> The corresponding regulation provides generally that complicated pneumoconiosis must be diagnosed by (1) a chest X-ray which yields one or more large opacities greater than one centimeter in diameter, (2) a biopsy or autopsy, evidencing massive lesions in the lung, or (3) other medically comparable means.<sup>52</sup> Practitioners should note that neither the 1977 Act, nor its implementing regulations, define the term "massive lesions." Furthermore, the Benefits Review Board has held that the existence of "massive lesions" is a medical diagnosis to be made by physician, not by an administrative law judge merely by examination of the raw data of the record.<sup>53</sup> The Board further stated that:

More than just the size of an opaque mass is involved in arriving at the medical diagnosis; some large nodules may not be 'massive lesions' because the histology is not correct for such a diagnosis. Conversely, numerous small nodules may in a doctor's opinion constitute 'massive lesions.' Neither administrative law judges nor the Board has the medical competence to make an equivalency determination of nodules found on autopsy and opacities on x-ray based on size alone.<sup>54</sup>

### C. *Death Due To Pneumoconiosis*

In the case of a deceased miner, entitlement can be established either by showing that the miner was totally disabled due to pneumoconiosis at the time of death or by showing that the miner's death was due to pneumoconiosis.<sup>55</sup> Practitioners should be aware that these are two separate methods of proving entitlement and that the failure of one of these entitlement theories does not preclude successful pursuit of the other.<sup>56</sup> Survivor's claims, based on the deceased miner's total disability due to pneumoconiosis at the time of death, are governed by the regulations discussed previously concerning the establishment of the existence of pneumoconiosis and proof of total disability.<sup>57</sup>

<sup>51</sup> 30 U.S.C. § 921(c)(3) (Supp. II 1978).

<sup>52</sup> 20 C.F.R. § 718.304 (1980).

<sup>53</sup> *Clites v. Jones and Laughlin Steel Corp.*, BRB No. 79-358 BLA (Sept. 26, 1980).

<sup>54</sup> *Id.*, slip op. at 13.

<sup>55</sup> 30 U.S.C. § 901(a) (Supp. II 1978).

<sup>56</sup> See *Hughes v. Heyl and Patterson, Inc.*, [1978] 8 BRBS (M-B) 892, 900-901, BRB No. 77-280 BLA.

<sup>57</sup> See text accompanying notes 11-54, *supra*.

In preparation to litigate a survivor's claim, the practitioner should look first to the regulations, which contain all of the methods for establishing that death was due to pneumoconiosis.<sup>58</sup> Death due to pneumoconiosis can be proven directly through competent medical evidence such as an autopsy or a reliable death certificate.<sup>59</sup> In this regard, if the evidence shows that the miner's death was multifactorial, that is due to multiple causes *including pneumoconiosis*, and it is not medically feasible to distinguish which disease caused death or the extent to which pneumoconiosis contributed to the cause of death, death *due to pneumoconiosis* will be established.<sup>60</sup>

If it cannot be shown that the miner died due to pneumoconiosis but it can be shown that the miner died from a respirable disease, then entitlement may be established pursuant to section 921(c)(2) of the Act,<sup>61</sup> which provides that if a miner has ten or more years of coal mine employment and died from a respirable disease, it is rebuttably presumed that the miner died due to pneumoconiosis. Under the regulations promulgated pursuant to this section of the Act, it is clear that the terms "respirable disease" and "respiratory disease" are equivalent.<sup>62</sup> The regulation provides that death will be found to be due to a respirable disease even where the evidence shows that death was due to multiple causes, including a respirable disease, when it is not medically feasible to determine which disease caused death or the extent to which the respirable disease contributed to the cause of death.<sup>63</sup> This presumption may be rebutted by a showing that (1) the diseased miner did not have pneumoconiosis, (2) the miner's death was not due to pneumoconiosis or (3) pneumoconiosis did not contribute to the miner's death.<sup>64</sup>

There is a great deal of similarity between 20 C.F.R. § 718.303 and 20 C.F.R. § 410.462(b), the Secretary's old regulation pertaining to death from a respirable disease. However, when attempting to apply the case law developed under the old regu-

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<sup>58</sup> 20 C.F.R. § 718.205 (1980).

<sup>59</sup> *Id.* § 718.205(b)(1) (1980).

<sup>60</sup> *Id.* § 718.205(b)(2) (1980).

<sup>61</sup> 30 U.S.C. § 921(c)(2) (Supp. II 1978); 20 C.F.R. § 718.303 (1980).

<sup>62</sup> 45 Fed. Reg. 13,678, 13,692 (1980).

<sup>63</sup> 20 C.F.R. § 718.303(a)(1) (1980).

<sup>64</sup> *Id.* § 718.303(b) (1980).

lation, the practitioner should recognize that the changes in structure and wording between the old and new regulations may alter the applicability of this case law.<sup>65</sup>

In a situation where there is evidence that the miner's death would have occurred as a result of some non-respirable condition, despite the presence of pneumoconiosis, the survivor's attorney may have great difficulty in showing that the pneumoconiosis was a factor contributing to the miner's death. Some physicians take the position that any condition which has an ill-effect on the miner's overall health is a contributing factor to his death. Other physicians require that pneumoconiosis be a proximate cause before regarding it as a contributing factor. At this point, the adjudicator is free to weigh conflicting medical testimony on this matter in reaching his decision. Thus, attorneys are strongly urged to take the opportunity to question physicians thoroughly concerning their opinions as to the role pneumoconiosis played in contributing to the miner's death. The more detailed the basis of the physician's opinion, the easier it will be for the adjudicator to ascribe evidentiary weight to the opinion.

Even without a showing of death due to pneumoconiosis or death due to a respirable disease, entitlement can still be established in a survivor's claim under certain limited circumstances. For example, the BLBRA added a new entitlement provision which aids the survivor of a deceased miner who died before March 1, 1978.<sup>66</sup> If that miner accumulated twenty-five years of coal mine employment prior to June 30, 1971, the sur-

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<sup>65</sup> See, e.g., *Smakula v. Weinberger*, 572 F.2d 127 (3d Cir. 1978); *Wallace v. Matthews*, 554 F.2d 229 (6th Cir. 1977); *Adkins v. Weinberger*, 536 F.2d 113 (6th Cir. 1976); *McLaughlin v. Jones & Laughlin Steel Corp.*, [1978] 9 BRBS (M-B) 1007, BRB No. 78-375 BLA; *Zavora v. U.S. Steel Corp.*, BRB No. 77-306 BLA (Dec. 31, 1980).

<sup>66</sup> 30 U.S.C. § 921(c)(5) (Supp. II 1978). Section 921(c)(5) has been challenged by a number of coal operators in a series of cases in which the Benefits Review Board has already heard oral argument and has under active consideration. *Trujillo v. Kaiser Steel Corp.*, BRB No. 78-398 BLA; *Freeman v. Old Ben Coal Co.*, BRB No. 79-114 BLA; *Marinelli v. North American Coal Corp.*, BRB No. 79-259 BLA; *Guardiano v. U.S. Steel Corp.*, BRB No. 79-435 BLA; *Battaglia v. Peabody Coal Co.*, BRB No. 79-633 BLA; *Bishop v. Peabody Coal Co.*, BRB No. 79-635 BLA; *Soulsby v. Consolidation Coal Co.*, BRB No. 79-686 BLA; *McKinnon v. Amax Coal Co.*, BRB No. 79-714 BLA; *Chrislip v. Bethlehem Mines Corp.*, BRB No. 79-739 BLA; *Turchi v. Amax Coal Co.*, BRB No. 79-758 BLA.

vivor is entitled to benefits unless rebuttal evidence shows that the miner was neither totally nor partially disabled due to pneumoconiosis.<sup>67</sup> Practitioners should read the corresponding regulation<sup>68</sup> very carefully, noting especially the methods of rebuttal<sup>69</sup> and the discussion which follows the regulation.<sup>70</sup>

#### *D. Arising Out of Coal Mine Employment*

The final basic element of entitlement is that the miner's pneumoconiosis must have arisen out of coal mine employment. This element can be established with direct proof, but it is usually presumed.<sup>71</sup> If the miner with pneumoconiosis can show ten years of coal mine employment, it is rebuttably presumed that the pneumoconiosis arose out of such employment. The corresponding regulations<sup>72</sup> are couched in terms very similar to those of the statutory provisions of the Act, except for 20 C.F.R. § 718.203(a) which states:

In order for a claimant to be found eligible for benefits under the Act, it must be determined that the miner's pneumoconiosis arose at least *in part* out of coal mine employment. The provisions of this section set forth the criteria to be applied in making such a determination.<sup>73</sup> [emphasis added]

Attorneys should note that the term "in part" has crept into the Secretary's regulations with no apparent basis in the Act, and is certain to be the source of considerable litigation.<sup>74</sup>

## II. BLACK LUNG MEDICINE

### *A. The Practitioner's Role*

A practitioner's familiarity with the legal criteria for establishing entitlement under the Act does not alone make a

<sup>67</sup> 30 U.S.C. § 921(c)(5) (Supp. II 1978).

<sup>68</sup> 20 C.F.R. § 718.306(c) (1980).

<sup>69</sup> *Id.*

<sup>70</sup> 45 Fed. Reg. 13,678, 13,693 (1980). It is unclear whether Congress intended "partial disability" to be construed in terms of physical impairment or work capability.

<sup>71</sup> 30 U.S.C. § 921(c)(1) (Supp. II 1978).

<sup>72</sup> 20 C.F.R. §§ 718.203, -302 (1980).

<sup>73</sup> *Id.* § 718.203(a) (1980).

<sup>74</sup> The Benefits Review Board is currently considering the validity of 20 C.F.R. § 727.203(b)(3) (1980) of the Secretary's interim regulations, which provides

skilled black lung practitioner. The skilled black lung practitioner must also have a basic understanding of the physiology<sup>75</sup> of the lungs, as well as the diagnostic techniques and laboratory tests used to measure lung function and their proper interpretation.

At the outset, the black lung practitioner must have a clear understanding of the physician's role in a black lung claim,<sup>76</sup> as well as the attorney's responsibilities with regard to the medical aspects of a black lung claim. It is all too clear that in most black lung cases there is a lack of communication and/or coordination between physicians and attorneys. Many physicians have indicated that they rarely receive information from attorneys concerning a claimant's work history or medical history. An even more serious lapse in communication frequently occurs when physicians are not made aware of which law or regulation is applicable to the claimant's case.

The practitioner must recognize that in a black lung case, the physician is cast in a different and unfamiliar role. Physicians are trained in medical school to diagnose and treat disease. Yet, in most black lung cases, the physician is asked to make a diagnosis but not to administer treatment. Most often the claimant is not even a patient of the physician. The claimant comes to the physician seeking disability evaluation, not medical improvement of his condition. The claimant may even view the physician as an adversary or as an obstacle to his attempt to establish eligibility for black lung benefits. For these reasons, a physician may be reluctant to evaluate a black lung claimant.<sup>77</sup>

The practitioner, aware of the physician's plight, should seek to aid the physician in performing his tasks by establishing easily accessible avenues of communication between doctor and lawyer.

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the rebuttal of the interim presumption if it is established that the "total disability or death of the miner did not arise in whole or *in part* out of coal mine employment. . . ." (emphasis added). *Jones v. The New River Co.*, BRB No. 79-386 BLA.

<sup>75</sup> "Physiology" is defined as "the basic processes underlying the functioning of a species or class of organisms, or any of its parts or processes." DORLAND'S ILLUSTRATED MEDICAL DICTIONARY, 1194 (25th ed. 1974).

<sup>76</sup> Sharpe & Tomashefski, *The Physician's Role in the Evaluation of Disability due to Pulmonary Disease*, in CLINICAL NOTES ON RESPIRATORY DISEASE 3 (Spring 1979) [hereinafter cited as Sharpe & Tomashefski].

<sup>77</sup> *Id.*



The physician must be provided with the claimant's complete medical and work history as well as an explanation of both the medical criteria the claimant must meet in order to merit entitlement and the quality standards which the objective medical evidence must satisfy. The practitioner should request the physician to form his medical conclusions with reference to the relevant medical criteria contained in the regulation. Physicians should be informed that they are not responsible for the ultimate decision with respect to entitlement. Rather, the proper role of the physician in black lung litigation is to provide medical data and to make an evaluation of the extent of medical impairment, based upon all of the available, reliable medical data. The physician can also give an opinion as to extent of disability by considering whether the degree of lung impairment suffered by the miner is severe enough to prevent the miner from performing usual coal mine work or comparable and gainful work. Of course, the physician must have knowledge of the skills and abilities required by the miner's usual coal mine work or any proffered comparable and gainful work in order for the opinion to be probative. The physician must realize that the ultimate decision of entitlement is to be made by the trier-of-fact, who is entitled to weigh the medical evidence without being bound by any particular medical report or opinion.<sup>78</sup> Thus, for a physician's report or opinion to be effective in black lung litigation, the physician must give more than a mere conclusion as to entitlement; for credibility reasons the physician must provide the underlying basis for his conclusion as to the extent of impairment or extent of disability.

### *B. Diagnostic Procedures: The X-ray*

The most common method used in the detection of the existence of pneumoconiosis is the chest X-ray. Remember, however, that chest X-rays are merely depictions of shadow patterns cast on radiographic film.<sup>79</sup> These shadows are called "opacities."<sup>80</sup> Any X-ray submitted as evidence of the existence of the disease must meet the quality standards of the regulations, which require that these "opacities" be classified accord-

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<sup>78</sup> See *Peabody Coal Co. v. Benefits Review Bd.*, 560 F.2d 797, 802 (7th Cir. 1977).

<sup>79</sup> See *Sharpe & Tomashefski*, *supra* note 76, at 5.

<sup>80</sup> *Morgan & Lapp*, *supra* note 12, at 116.

ing to the ILO-U/C Classification System.<sup>81</sup> Under this system, the opacities are classified initially according to size. Simple pneumoconiosis is diagnosed when none of the opacities exceed one centimeter in diameter and complicated pneumoconiosis is diagnosed when one or more of the opacities exceed one centimeter in diameter.<sup>82</sup>

Simple pneumoconiosis is further subdivided into classifications depending on whether the shape of the opacities are "small rounded" or "small irregular." Opacities within these subdivisions are then classified according to type (measured by the approximate diameter of the predominate opacities), profusion (referring to the number of small opacities per unit area), and extent (recorded by noting which lung zones are involved).<sup>83</sup>

Practitioners must keep the probative value of the chest X-ray in the proper perspective. While chest X-rays are valuable as a diagnostic tool, they are not truly diagnostic. Chest X-rays may reveal histological changes but not the etiology of the pathological stimuli which caused the changes. Thus, a diagnosis of CWP which is based solely on a chest X-ray both medically and legally insufficient without a corroborating history of adequate exposure to coal mine dust.<sup>84</sup>

Furthermore, X-rays do not provide an estimate of lung function.<sup>85</sup> Experience has shown that the correlation of chest X-ray findings with pulmonary function studies and blood gas studies is quite poor.<sup>86</sup> Thus, attorneys should never rely on X-ray diagnoses as support for the extent of lung impairment, unless of course the X-ray report reveals the presence of complicated pneumoconiosis.<sup>87</sup>

### C. *Diagnostic Procedures: Respiratory Function Testing*

The most common methods of measuring loss of lung function are the pulmonary function studies and the blood gas

<sup>81</sup> 20 C.F.R. § 718.102 (1980).

<sup>82</sup> Morgan & Lapp, *supra* note 12, at 116.

<sup>83</sup> *Id.*

<sup>84</sup> See 4A ATTORNEY'S TEXTBOOK OF MEDICINE 205-76 to 205-78.

<sup>85</sup> Spencer v. Winston Mining Co., [1978] 8 BRBS (M-B) 974, 977, BRB No. 77-297 BLA.

<sup>86</sup> See Sharpe & Tomashefski, *supra* note 76, at 5.

<sup>87</sup> Where complicated pneumoconiosis is present, the X-ray evidence provides a presumption of total disability. 30 U.S.C. § 921(c)(3) (Supp. II 1978).

studies. The black lung practitioner should visit a pulmonary evaluation clinic both for the purpose of observing the administration of the pulmonary function test and the blood gas test and also to undergo pulmonary function testing and blood gas testing so as to be aware of the effort, cooperation and understanding required to perform these tests. A practitioner should never subject a claimant to a medical test that they would not take themselves.

Moreover, the practitioner should never have a claimant undergo pulmonary function or blood gas testing if the claimant: (a) suffered a heart attack within the last month; or (b) suffers from either congestive heart failure, active pulmonary hemorrhage, or pneumothorax. Testing a claimant suffering from any of these conditions is very dangerous as it might conceivably cause their death. Furthermore, a claimant should not undergo pulmonary function or blood gas testing if the claimant: (a) presently or recently suffered an acute respiratory tract infection; (b) suffers from congestive heart failure; (c) suffers from a fractured rib; or (d) has suffered a stroke, causing considerable residual muscular weakness. Pulmonary function testing and blood gas testing of claimants with these conditions present will produce *false results*.<sup>88</sup>

A basic knowledge of the components of lung function which each of these tests measure is necessary, because the practitioner must fully understand the significance of the test results. The respiratory-pulmonary function is simply the exchange of gases, *i.e.*, oxygen and carbon dioxide, between the blood and the outside air. This function is performed by three separate processes: ventilation, perfusion and diffusion.<sup>89</sup> Pneumoconiosis may adversely affect any one or all of these processes. It may block ventilation, that is, the movement of air in and out of the lungs. This abnormality is caused primarily by a narrowing of the larger airways in the lungs due to an accumulation of dust particles and resulting inflammation, especially at the juncture of the airways. Pneumoconiosis may also create an inability to

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<sup>88</sup> These contraindications to pulmonary function or blood gas testing were taken from remarks made by Dr. William Anderson during the *Coal Workers Pneumoconiosis Symposium* at Bristol Virginia (October 9th and 10th, 1980) (sponsored by the Virginia Lung Association; Dr. William Schmidt, Chairman).

<sup>89</sup> 4A ATTORNEY'S TEXTBOOK OF MEDICINE 205-50.

provide adequate oxygen to the blood because of destruction of the cell wall at the alveolar/capillary level. Thus, the diffusion of oxygen and carbon dioxide will be inhibited. Finally, the wholesale destruction of lung tissue and distortion of the airways, through fibrosis, may prevent healthy alveolar/capillary tissue from receiving oxygen, *i.e.*, perfusion defects appear.<sup>90</sup> The perfusion defect is often associated with the development of progressive massive fibrosis (PMF).<sup>91</sup>

Pulmonary function studies measure the effectiveness of the ventilation process.<sup>92</sup> Blood gas studies monitor the effectiveness of the lungs' perfusion and diffusion capability thus reflecting the lungs' inability to take oxygen from the air and transfer it to the blood stream.<sup>93</sup> Thus, attorneys should note that pulmonary function studies and blood gas studies measure entirely separate respiratory functions. Any lack of correlation between the results of these two tests does not necessarily indicate the unreliability of either test.<sup>94</sup>

#### *Pulmonary Function Testing*

Pulmonary function studies are performed on an apparatus known as a spirometer, which is composed of a drum inverted in a tank of water with a tube extending from the air space in the top of the drum to the mouth of the person to be tested. The drum is suspended from pulleys and counter-balanced by a weight. As the person breathes in and out, the drum moves up and down causing the counterweight also to move up and down. As the counterweight moves, the changing volume of air inside the inverted drum is measured on a moving paper chart attached to an adjacent revolving cylinder.<sup>95</sup> The recordings on the mov-

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<sup>90</sup> W. MORGAN & A. SEATON, OCCUPATIONAL LUNG DISEASES 5-19 (1975) [hereinafter cited as MORGAN & SEATON].

<sup>91</sup> *Id.* at 202.

<sup>92</sup> 4A ATTORNEY'S TEXTBOOK OF MEDICINE 205-54; *see* Gurule v. Director, [1979] 11 BRBS (M-B) 664, BRB No. 78-587 BLA.

<sup>93</sup> *See* Gurule v. Director, [1979] 11 BRBS (M-B) 664, BRB NO. 78-587 BLA; *see also* Perkins v. Ryans Creek Coal Co., [1979] 10 BRBS (M-B) 178, BRB No. 77-324 BLA.

<sup>94</sup> *See* 20 C.F.R. § 718.105, Discussion and Changes (a), 45 Fed. Reg. 13,678, 13,683 (1980); *see also* Gurule v. Director, [1979] 11 BRBS (M-B) 664, BRB No. 78-587 BLA.

<sup>95</sup> A. GUYTON, FUNCTION OF THE HUMAN BODY 200 (1974) [hereinafter cited as GUYTON].

ing paper represent the "tracings" which are interpreted to determine the test values.

There are two basic maneuvers performed and charted by this test, pursuant to the medical criteria contained in the Act. They are the Forced Vital Capacity (FVC) maneuver and the Maximum Voluntary Ventilation (MVV) or Maximum Breathing Capacity (MBC) maneuver.<sup>96</sup> To perform the FVC maneuver, the subject inspires maximally and exhales as rapidly and forcefully as possible. During this maneuver the volume of air exhaled in a fixed interval of time can be measured by recording the movement of the spirometer on the paper chart. The forced expiratory volume in one second (FEV<sub>1</sub>) is derived from the FVC tracing by measuring the volume of air expired during the first second of the maneuver. This test requires full effort on the part of the subject so that a valid measurement may be obtained. In a properly performed test, the spirometric tracing should indicate a sharp rise by the spirometer followed by a steep plummeting curve which eventually levels out as the residual volume of air is forced more slowly from the lungs.<sup>97</sup> Practitioners are encouraged to have a physician illustrate the difference between a spirometric tracing which indicates a properly performed test and one which indicates less than maximal effort.

To perform the MVV maneuver, the subject must breathe into the spirometer as rapidly and deeply as possible for ten to fifteen seconds. The movement of air, by volume, is recorded on the spirometer and is calculated as liters per minute.<sup>98</sup> This test requires considerable effort, exertion and cooperation by the subject. Often the subject is unable to sustain the effort necessary to perform the test properly. Thus, in many instances, the test may reflect *performance* rather than *pulmonary function*.<sup>99</sup> Accordingly, the Secretary of Labor no longer requires a qualifying MVV result, by way of pulmonary function studies, as a prerequisite to a showing of total disability. Under Appendix B

<sup>96</sup> See 4A ATTORNEY'S TEXTBOOK OF MEDICINE 205-55.

<sup>97</sup> See H. HINSHAW & J. MURRAY, DISEASES OF THE CHEST 84-87 (1980) [hereinafter cited as HINSHAW & MURRAY]; P. BEESON & W. MCDERMOTT, TEXTBOOK OF MEDICINE 808-13 (1975).

<sup>98</sup> U.S. BUREAU OF HEARINGS AND APPEALS, SOCIAL SECURITY ADMINISTRATION, BHA PUB. NO. 049, THE RESPIRATORY SYSTEM, SELF-INSTRUCTORIAL WORKBOOK 34, app. A (1978).

<sup>99</sup> Sharpe & Tomashefski, *supra* note 76, at 6.

to Part 718 of the regulations, a miner may establish total disability by first qualifying under the FEV<sub>1</sub> standards and in addition, qualifying under the standards for either the FVC or the MVV test, or by showing a specified ratio between the results of FEV<sub>1</sub> and FVC testing.<sup>100</sup>

To understand the true significance of pulmonary function testing, the practitioner must realize that the values, as they relate to the regulatory tables, do not themselves indicate the severity of lung impairment.<sup>101</sup> The lungs exhibit two major patterns of response to dust stimuli: an obstructive impairment and a restrictive impairment. An obstructive impairment is a reduction in the ventilatory capacity resulting from the narrowing of lung airways and is typical of chronic bronchitis, asthma or wide spread emphysema. It is the most common type of impairment resulting from exposure to coal dust. This condition is characterized by a low value for the FEV<sub>1</sub>/FVC ratio.<sup>102</sup>

A restrictive impairment causes a restriction of, or limitation to, the amount of air that can be contained within the lungs without evidencing any airway obstruction. Thus, in the case of a restrictive impairment, the FEV<sub>1</sub> may be relatively normal and the FEV<sub>1</sub>/FVC normal or even increased. This condition occurs in diseases where there is diffuse fibrosis of the lung tissue such as asbestosis, silicosis and complicated pneumoconiosis.<sup>103</sup>

To accurately evaluate the pulmonary function study results, the practitioner should attempt to obtain an interpretation of these results from an examining physician who is familiar with the claimant's overall symptomatology and exposure history.<sup>104</sup>

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<sup>100</sup> 20 C.F.R. § 718.103, *Discussion and Changes (a) and (b)*, 45 Fed. Reg. 13,678, 13,682 (1980).

<sup>101</sup> HINSHAW & MURRAY, *supra* note 97, at 93-95; 4A ATTORNEY'S TEXTBOOK OF MEDICINE, 205-54,-55.

<sup>102</sup> HINSHAW & MURRAY, *supra* note 97, at 93-95.

<sup>103</sup> J. ROGAN, *MEDICINE IN THE MINING INDUSTRIES* 71 (1972) [hereinafter cited as ROGAN].

<sup>104</sup> See *Sykes v. Itmann Coal Co.*, BRB No. 79-396 BLA/A (Oct. 31, 1980) (since pulmonary function tests and blood gas tests, which did not qualify under tables contained in the 20 C.F.R. § 727.203 interim presumption, might well be subject to several inferences and interpretations, these tests could not in and of themselves establish that the claimant was capable of performing his usual coal mine employment (or comparable and gainful employment); evaluation of disability as evidenced by these tests was properly a medical determination).

Practitioners will often encounter pulmonary function study results which were obtained "post-bronchodilator." A bronchodilator is a drug which, when inhaled, will reduce the degree of bronchospasm due to asthma.<sup>105</sup> For the bronchodilator to be a meaningful indicator of reversibility in the obstructive component of the disease, pulmonary function tests should be conducted both before and after its use.<sup>106</sup> Substantial improvement in post-bronchodilator test results may indicate that the subject's impairment is due to the reversible bronchospasm of asthma rather than the fixed airway obstruction associated with pneumoconiosis.<sup>107</sup> Therefore, while the use of bronchodilator testing may be an aid in determining the existence of pneumoconiosis, attorneys should be cautioned that post-bronchodilator values which show substantial improvement over pre-bronchodilator scores do not provide an accurate basis for assessment of the degree of disability.<sup>108</sup> To think that a bronchodilator could be administered frequently enough under employment conditions to match the relief found in the pulmonary function laboratory is impractical.

Although the pulmonary function tables contained in the regulations refer only to MVV, FVC, and FEV<sub>1</sub> values, the skilled practitioner will also know the meaning and significance of several other physiological measurements of lung function such as: vital capacity (VC), residual volume (RV), total lung capacity (TLC), function residual capacity (FRC), maximal mid-expiratory flow rate (MMFR) and tidal volume (TV).<sup>109</sup> Values produced by these measurements may often provide clues as to the etiology and nature of the claimant's lung impairment. For example, a claimant who suffers from emphysema will demonstrate increased total lung capacity, while the claimant suffering from asthma or bronchitis will demonstrate normal total lung capacity.<sup>110</sup> The practitioner should know that lung impairment emanating from resistance at the peripheral (small) airway level is best detected from the MMFR results.<sup>111</sup> Also, the residual

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<sup>105</sup> ROGAN, *supra* note 103, at 71.

<sup>106</sup> 20 C.F.R. § 718.103(b)(8) (1980).

<sup>107</sup> ROGAN, *supra* note 103, at 71.

<sup>108</sup> 20 C.F.R. § 718.103, *Discussion and Changes (e)*, 45 Fed. Reg. 13,678, 13,682 (1980).

<sup>109</sup> HINSHAW & MURRAY, *supra* note 97, at 77.

<sup>110</sup> *Id.* at 94.

<sup>111</sup> *Id.* at 86; MORGAN & SEATON, *supra* note 90, at 11.

volume (RV) is often larger than the predicted value in miners suffering from simple CWP.<sup>112</sup> When properly used, these other physiological measurements can become relevant evidence either in support of or in the defense of a black lung claim.<sup>113</sup>

### *Blood Gas Testing*

The blood gas test measures the lungs' ability to transport oxygen from the lungs' alveoli into the blood. To understand the significance of blood gas study results, the practitioner should have at least an elementary understanding of the process which is tested, that is, how and why oxygen diffuses from the alveoli into the pulmonary blood.

Oxygen pressure (PO<sub>2</sub>) of "venous" blood returning to the lungs after replenishing the body's cells with the required oxygen supply is forty millimeters of mercury (40 mm Hg.). The oxygen pressure in the alveolar air is 104 mm Hg. This large pressure difference causes extremely rapid diffusion of oxygen across the pulmonary capillary membrane and into the blood. The carbon dioxide pressure (PCO<sub>2</sub>) in the venous blood is forty-six millimeters of mercury (46 mm Hg.) which is greater than the pressure in the alveolar air. Therefore, carbon dioxide diffuses in the opposite direction into the lungs and is expelled through expiration.<sup>114</sup>

During the very short time that the blood remains exposed to the alveolar air in the pulmonary capillary, it attains a PO<sub>2</sub> of approximately 100 mm Hg. The PCO<sub>2</sub> returns to a normal pressure of 40 mm Hg. Should this delicate diffusion process be inhibited by the development of disease, a variance from the normal PO<sub>2</sub> and PCO<sub>2</sub> would be detected by analysis of the arterial blood.<sup>115</sup>

A blood gas study is performed by first inserting a soft plastic catheter through a needle into an artery, after a local anesthetic.<sup>116</sup> Arterial blood is preferably drawn from the sub-

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<sup>112</sup> MORGAN & SEATON, *supra* note 90, at 191.

<sup>113</sup> 30 U.S.C. § 923(b) (Supp. II 1978) directs that all relevant evidence must be considered in determining the validity of claims under the Act. This statutory mandate is reflected in the comments accompanying Part 718 of the Secretary's regulations. 45 Fed. Reg. 13,678, 13,687 (1980).

<sup>114</sup> GUYTON, *supra* note 95, at 205-06.

<sup>115</sup> *Id.* See 20 C.F.R. § 718 app. C.

<sup>116</sup> Dr. Donald R. Rasmussen explained the mechanics and practical application of the exercise blood gas test in a deposition taken at his office at the Ap-



ject while he or she is in an upright sitting position.<sup>117</sup> The blood must be analyzed immediately after being drawn to determine its oxygen and carbon dioxide tensions or pressures. If these results do not yield values which meet the regulatory table, thereby invoking the presumption of total disability, the miner has the option of being tested while exercising on a treadmill. In this case, the blood must be drawn during exercise.<sup>118</sup>

The practitioner must remember that not all physicians perform blood gas testing in the same manner; thus, it is not uncommon that black lung claim files contain blood gas testing reports taken within a limited time frame with varying results. Many attorneys become discouraged when they should be ascertaining how the various blood gas tests were conducted so that the reason for the variance can be determined.

There are several inquiries that can be made when the blood gas test results exhibit substantial variance. Was the miner sitting in an upright position when blood was drawn or was he lying down? Was the miner exercised? If so, what was the nature and extent of exercise? Some physicians exercise a miner only once whereas others require exercise two or three times with increased difficulty each time and a rest period in between.<sup>119</sup> Some physicians use bicycles; other use treadmills. When was the blood drawn? If the blood was not drawn during exercise, the results may not be reliable.<sup>120</sup> Finally, the practitioner should be aware that the individual miner's heart rate and oxygen uptake are also key factors which effect blood gas test results. Even the calibration for the barometric pressure contained on the blood gas testing equipment can affect the test results. The practitioner should remember that any of these factors may explain a variance in blood gas testing results.

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palachian Pulmonary Laboratory, Inc., Beckley, W. Va., on Sept. 3, 1975 [hereinafter cited as Rasmussen]. Dr. Rasmussen is an acknowledged expert in the field of pulmonary testing. See *Morris v. Mathews*, 557 F.2d 563, 569 (6th Cir. 1977); *Davis v. Califano*, 473 F. Supp. 941, 945 (S.D.W. Va. 1979).

<sup>117</sup> Rasmussen, *supra* note 116; 20 C.F.R. § 718.105, *Discussion and Changes* (f), 45 Fed. Reg. 13,678, 13,684 (1980).

<sup>118</sup> 20 C.F.R. § 718.105(b) (1980).

<sup>119</sup> If only one set of exercise reports are reported by the physician who performs two or three periods of exercise, the skilled practitioner will seek the results of the exercise periods not reported.

<sup>120</sup> See 20 C.F.R. § 718.105(b) (1980).

*Other Tests of Respiratory Function*

There are a number of other specialized laboratory tests which are routinely used to measure respiratory function.<sup>121</sup> For example, perfusion lung scanning is most commonly used to detect pulmonary embolism.<sup>122</sup> Additionally, lung scanning, used together with chest X-rays, can detect asthma, bronchitis, pneumonia, bronchogenic carcinoma, bullae, cysts, congestive heart failure and pulmonary infarction.<sup>123</sup> It has also been demonstrated that cardiac catheterization, when used with lung perfusion scans, may aid in confirming a diagnosis of cor pulmonale, complicated pneumoconiosis and other respiratory abnormalities.<sup>124</sup> The electrocardiogram is also a valuable test in diagnosing cor pulmonale secondary to pulmonary disease.<sup>125</sup>

Many laboratories perform a single breath test to measure pulmonary diffusing capacity, the values for which are expressed by the symbol DLco. Coal miners with simple pneumoconiosis may show a slight reduction in DLco, while coal miners with progressive massive fibrosis or complicated pneumoconiosis will show a greater reduction in DLco.<sup>126</sup> Diffusion defects in the lungs are caused by lesions or fibrosis/scar tissue which completely obliterate functional lung tissue. When these lesions form in the thin membrane separating the alveoli and the pulmonary capillary, the normal flow of oxygen into the blood, and of carbon dioxide into the lung, is inhibited. Simply speaking, the lungs lose their capacity to oxygenate the blood.

When these changes occur in the lungs there will also be an increase or widening of the alveolar-to-arterial oxygen gradient (A-aO<sub>2</sub>). The A-aO<sub>2</sub> gradient is a measure of respiratory function which is derived from blood gas testing.<sup>127</sup> Symptoms which often corroborate the loss of diffusing capacity are an increase in the miner's respiratory rate, cyanosis, and clubbing. The practitioner must remember that an abnormal or elevated A-aO<sub>2</sub> gra-

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<sup>121</sup> See HINSHAW & MURRAY, *supra* note 97, at 126.

<sup>122</sup> *Id.* at 50.

<sup>123</sup> *Id.* at 50, 663-64; MORGAN & SEATON, *supra* note 90, at 190.

<sup>124</sup> MORGAN & SEATON, *supra* note 90, at 201-03.

<sup>125</sup> HINSHAW & MURRAY, *supra* note 97, at 700.

<sup>126</sup> *Id.* at 96, 734, 736; MORGAN & SEATON, *supra* note 90, at 179-81, 199-202.

<sup>127</sup> For a general discussion of the A-aO<sub>2</sub> test, see *Honaker v. Jewell Ridge Coal Corp.*, [1980] 12 BRBS (M-B) 609, BRB No. 77-397 BLA (Smith dissenting).

dient can be the result of: (1) an intracardiac shunt, (2) intrapulmonary shunt, or (3) non-perfused or unventilated dead space in the lung caused by progressive massive fibrosis or other lesions which occupy space in the lungs and reduce the amount of effective tissue for gas exchange between oxygen and carbon dioxide.<sup>128</sup> Additional testing is necessary because an intracardiac or intrapulmonary shunt is not related to the inhalations of coal dust. By the administration of 100 percent oxygen, qualified physicians can pinpoint the reason for the increased A-aO<sub>2</sub> gradient.<sup>129</sup> If the additional testing reveals that the elevated A-aO<sub>2</sub> gradient is caused by progressive massive fibrosis or other lesions associated with CWP, then the A-aO<sub>2</sub> gradient calculation would be of considerable benefit to the claimant. The skilled practitioner must also keep in mind that it is medically impossible for a miner to have normal pO<sub>2</sub> and pCO<sub>2</sub> values and an abnormal A-aO<sub>2</sub> gradient.<sup>130</sup>

### *Medical Reports*

A review of the basics of black lung pulmonary medicine would not be complete without a discussion of medical reports. The medical evidence contained in the hearing transcript and records of most cases appealed to the Benefits Review Board is sadly lacking in several respects. The biggest deficiency results from incomplete medical reports.

In about ninety-five percent of all black lung claims, medical

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<sup>128</sup> D. BATES, P. MACKLERN, & R. CHRISTIE, *RESPIRATORY FUNCTION IN DISEASE* 67 (1971).

<sup>129</sup> INTERMOUNTAIN THORACIC SOCIETY, *PULMONARY FUNCTION STANDARDIZATION TASK FORCE, CLINICAL PULMONARY FUNCTION TESTING* 11-15, 17, 20 (1975); HINSHAW & MURRAY, *supra* note 97, at 115-19; MORGAN & SEATON, *supra* note 90, at 16.

<sup>130</sup> This entire A-aO<sub>2</sub> gradient question was focused upon during a black lung seminar attended by some 200 physicians and attorneys at Bristol, Virginia on Oct. 9th and 10th, 1980. See note 88 *supra*. During the course of the seminar, Dr. Donald Rasmussen of Beckley, West Virginia and Dr. William Anderson of Louisville, Kentucky, both well known experts in the field of pulmonary testing, were repeatedly questioned as to the possibility of having normal pCO<sub>2</sub> and pO<sub>2</sub> values and an abnormal A-aO<sub>2</sub> gradient blood gas value. Finally, these two physicians stated emphatically that no one should leave the seminar thinking that it is medically possible to find, as a result of blood gas testing, normal pCO<sub>2</sub> and pO<sub>2</sub> values and an abnormal A-aO<sub>2</sub> gradient.

evidence is submitted by way of an *ex parte* medical report.<sup>131</sup> It must be recognized, however, that each party has the right to cross-examine the authors of the opponent's medical evidence.<sup>132</sup> The practitioner should explain to the physicians that the submission of a detailed medical report with objective findings substantiating their conclusions will often render taking their deposition or calling them as a witness unnecessary. Practitioners do a considerable disservice to their clients when they submit incomplete medical reports or medical test results which do not conform to the quality standards set forth in the regulations. Rather than attempt to identify each and every shortcoming of medical reports, it is more appropriate to identify, by way of an outline, the information that a good medical report should contain.<sup>133</sup>

### I. Claimant's History

#### A. Complaints.

#### B. Symptoms—onset and duration, better or worse, what provokes it, what relieves it.

1. Shortness of breath or dyspnea—with an estimate of exercise tolerance, including grade of dyspnea.
2. Cough—time of day, color, odor, and consistency.
3. Pedal edema—extent, time of day.
4. Pain—character, duration, time of day.
5. Change in body weight—with claimant's idea of gain or loss.

#### C. Medications—include all medications, frequency, and dosage.

#### D. Occupational history—with physical requirements of present or last coal mine job.

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<sup>131</sup> It is now well settled that an award of black lung benefits based on *ex parte* medical reports is constitutionally permissible as long as the party protesting the evidence has an opportunity to subpoena and cross-examine the reporting physician(s). *Republic Steel Corp. v. Leonard*, 635 F.2d 206 (3d Cir. 1980); *U.S. Pipe & Foundry Co. v. Webb*, 595 F.2d 264 (5th Cir. 1979).

<sup>132</sup> *Horgas v. Elliot Coal Mining Co.*, [1979] BRBS (M-B) 744, BRB No. 78-392 BLA; *Kislak v. Rochester & Pittsburgh Coal Co.*, [1979] 10 BRBS (M-B) 225, BRB No. 77-629 BLA; and *Strozier v. U.S. Pipe & Foundry Co.*, [1979] 9 BRBS (M-B) 978, BRB No. 77-791 BLA.

<sup>133</sup> See Sharpe & Tomashefski, *supra* note 76, at 4-9.

- E. Past Medical History.
- F. Habits—tobacco use.
- II. Physical Examination
  - A. Vital signs—including respiratory rate.
  - B. General appearance.
  - C. Skin color—including that of the lips and nails.
  - D. Chest
    - 1. Palpation
    - 2. Percussion
    - 3. Auscultation
  - E. Extremities—fingers and toes should be examined for cyanosis and clubbing; feet and ankles for edema.
- III. The Laboratory Evaluation
  - A. Chest X-ray—must conform with quality standards set out in 20 C.F.R. § 718.
  - B. Pulmonary function testing—must conform with quality standards set out in 20 C.F.R. § 718.
  - C. Blood gas testing—must conform with quality standards set out in 20 C.F.R. § 718.
  - D. Other tests—*i.e.*, electrocardiogram, perfusion lung scan, heart catheterization, etc.
- IV. Conclusions
  - A. Diagnosis—with reference to physical examination, laboratory testing and any other medical data considered.
  - B. Degree of physical impairment—with a specific impression of the degree of claimant's pulmonary impairment. Reference to the Section 718 regulations is appropriate if physician is so familiar.
  - C. Work restrictions—are work restrictions, if any related to pulmonary impairment or other impairments.

The black lung practitioner should insist upon a high standard of medical evaluation and reporting. Clients whose claims are determined based on a lesser standard of medical evidence, are being inadequately served by their lawyer as the claim will ultimately be determined upon what might be accurately called an *incomplete* record.

CONCLUSION

Successful federal black lung practitioners will master the basics of federal black lung litigation and will view their occupation, not only as a means of livelihood but also as an opportunity to serve their fellow man, be it employer or claimant, in an ever expanding body of occupational disease law. Although the road along which the federal black lung practitioner must travel is filled with anxiety, frustrations, and frequent confusion, considerable satisfaction can be found at the journey's end if along the way the practitioner has mastered the basics.

