REFERENCES

Asanuma, Y., Kawai, S., Aoshima, H. (1999). Serum Lipoprotein and Apolipoprotein Phenotypes in patients with rheumatoid arthritis. **Arthritis & Rheumatism**, 42: 443-447.

Ball, G., Koopman, W.J. (1986). **Clinical Rheumatology.** Philadelphia: WB Saunders Company.

Banwell, B.F., Gall, V. (1988). **Physical Therapy Management of Arthritis**. New York: Churchill Livingstone.

Bartlett, S. (1999). Management role of exercise in arthritis. Internet: http:///www.hopkins-arthritis.com. Entry date: 12 Dec. 1999.

Beals, C.A., Lampman, R.M., Banwell, B.F., Braunstein, E.M., Albers, J.W., Castor, C.W. (1985). Measurement of exercise tolerance in patients with rheumatoid arthritis and osteoarthritis. **Journal of Rheumatology,** 12(61): 458.

Bennett, J.C. (1988). Rheumatoid arthritis clinical features. **Primer on the Rheumatic Diseases : INDOCID.** Ninth edition. Atlanta : Arthritis Foundation.

Berkow, R., Fletcher, A.J., Beers, M.H. (Editors) (1992). **The Merc Manual of Diagnosis and Therapy.** Sixteenth edition. New York: Merc & Co., Inc.

Blake, D.R. (1989). Hypoxic Reprofusion injury in the inflamed human joint. **Lancet,** 1:289-293.

Boström, C., Harms-Ringdahl, K., Karreskog, H., Nordemar, R. (1998). Effects of static and dynamic shoulder rotator exercises in woman with rheumatoid arthritis. **Scandinavian Journal of Rheumatology,** 27: 281-290.

Brighton, S.W., Lubbe, J.E., van der Merwe, C.A. (1993). The effect of a long-term exercise programme on the rheumatoid hand. **British Journal of Rheumatology,** 32(5): 392-395.

Brukner, P., Khan, K. (1997). **Clinical Sports Medicine.** Sydney: McGraw Hill Book Company.

Carse, D. (1991). **Aqua-Rhythmics – Everybody's guide to safe and efficient water exercising.** Cape Town: Human & Rousseau.

Clarke, A. (1987). **Rehabilitation in Rheumatology – The Team Approach.** London: Martin Dunitz Ltd.

Cortet, B., Flipo, R.M., Pigny, P. (1998). Bone turn-over a determinant of bone mass in rheumatoid arthritis. **Journal of Rheumatology**, 25: 2339-2344.

Currey, H.C.F (Editor) (1980). **Mason and Currey's Clinical Rheumatology.** Third edition. Kent: Pitman Medical Limited.

Danneskiold-Samsoe, B., Grimby, G. (1986). Isokinetic and Isometric muscle strength in patients with rheumatoid arthritis; the relationship to clinical parameters and the influence of corticosteroids. **Clinical Rheumatology,** 5: 459-467.

Dellhag, B., Wollersjo, I., Bjelle, A. (1992). Effect of active hand exercise and wax-bath treatment in rheumatoid arthritis patients. **Arthritis Care & Research,** 5(2): 87-92.

Dieppe, P.A., Bacon, P.A., Bamji, A.M., Watt, I. (1986). **Atlas of Clinical Rheumatology.** London: Gower Medical Publishing.

Diet, Guidelines & Research. Arthritis Foundation. Roggebaai. South Africa.

Downey, J.A.., Myers, S.J., Gonzales, E.G., Lieberman, J.S. (1994). **The Physiological Basis of Rehabilitation Medicine.** Second Edition. Boston: Butterworth – Heinemann.

Educational and Industrial Testing Service (1971). **Profile of Mood States, (POMS).** United States of America.

Ekblom, B., Lövgen, O., Fridstoröm, M., Sätterstöm, G. (1974). Physical performance in patients with rheumatoid arthritis. **Scandinavian Journal of Rheumatology,** 3: 121-125.

Ekdahl, C., Andersson, S.I. (1989). Standing balance in rheumatoid arthritis: a comparative study with healthy subjects. **Scandinavian Journal of Rheumatology,** 18: 152-156.

Ekdahl, C., Andersson, S.I., Maritz, U., Svensson, B. (1990). Dynamic versus static training in patients with Rheumatoid Arthritis. **Scandinavian Journal of Rheumatology,** 19: 17-26.

Ekdahl, C., Broman, G. (1992). Muscle strength, endurance, and aerobic capacity in rheumatoid arthritis: a comparative study with healthy subjects. **Annals of the Rheumatic Diseases,** 51: 35-40.

Eston, R., Reilly, T. (1996). **Kinanthropometry and Exercise Physiology Manual.** London: E & F N Span.

Eustice, C. (2000). Arthritis: Diet and Arthritis. http://.www.arthritis.about.com. Entry date 13 Mar. 2000.

Exercise & your Arthritis. Arthritis Foundation. Roggebaai. South Africa.

Fam, A.G. (1990). Effect of joint muscle of experimental CPPD crystal induced arthritis. **Journal of Rheumatology,** 17: 644-655.

Fleisch, H. (1997). **Bisphosphonates in Bone Disease : from the Laboratory to the Patient.** Third edition. New York: The Parthenon Publishing Group.

Fox, E.L., Bowers, R.W., Foss, M.L. (1993). **The Physiological Basis for Exercise and Sport.** Fifth edition. Madison: Brown & Benchmark Publishers.

Fries, J.F. (1983). The assessment of disability : from first to future principles. **British Journal of Rheumatology,** 22: 48-58.

Gerber, L.H. (1988). Rehabilitative therapies for patients with rheumatic disease. **Primer on the Rheumatic Diseases: INDOCID.** Ninth edition. Atlanta: Arthritis Foundation.

Giannini, M.J., Protas, E.J. (1992). Exercise response in children with and without juvenile rheumatoid arthritis : A case comparison study. **Physical Therapy.** 72(5): 365-372.

Hall, J., Stevington, S.M., Maddison, P.J., Chapman, K. (1996). A randomized and controlled trial of hydrotherapy in Rheumatoid Arthritis. **Arthritis Care & Research**, 9(3): 206-215.

Hakkinen, A., Sokka, T., Kontaniemi, A., Kautianen, H., Jappinen, I., Loutinen, L., Hannonen, P. (1999). Dynamic strength training in patients with early rheumatoid arthritis increases muscle strength but not bone density. **The Journal of Rheumatology,** 26(6): 1257-1263.

Hampton, J. (1997). **Up and About with Arthritis.** Cape Town: Arthritis Foundation.

Harkom, T.M., Lampman, R.M., Banwell, B.F., Castor, C.W. (1985). Therapeutic value of graded aerobic training in rheumatoid arthritis. **Arthritis & Rheumatism,** 28(1):32-39.

Harris, E.D. (1997). **Rheumatoid Arthritis.** Pennsylvania: W B Saunders Company.

Hazes, J.M.W., Van den Ende, C.H.M. (1996). How vigorously should we exercise our rheumatoid arthritis patients. **Annals of Rheumatic Diseases,** 55: 861-862.

Hewlett, S. (1999). Rheumatoid arthritis: can changing how you think, change how you feel? **Joint Attack,** January, 2.

Hicks, J.E. (1990). Exercise in patients with inflammatory arthritis and connective tissue disease. **Rheumatic Disease Clinics of North America.** 16(4): 845-870

Howel, D.C. (1992). **Statistical Methods for Psychology.** Third edition. California: Duxbury Press.

Hsieh, L.F., Didenko, B., Schaumacher, Jr. R. (1987). Isokinetic and isometric testing of knee musculature inpatients with rheumatoid arthritis with mild involvement. **Archives of Physical medicine & Rehabilitation,** 68(7): 294.

Jenkinson, T. (2001). Joint Progress : Exercise can help in Rheumatoid Arthritis. **SportEx.** 9: 14-17.

Jestadt, P. (2001). A weighty matter : the role of diet in arthritis management. **Joint Attack.** August, 5.

Kelly, W.N., Harris, E.D., Ruddy, S.R., Sledge, C.B. (1997). **Textbook of Rheumatology.** Volume 1. Fifth edition. Philadelphia: W.B. Saunders Company.

Kendall, F.P., McCreary, E.K., Provance, P.G. (1993). **Muscles Testing & Function.** Fourth edition. Baltimore: Williams & Wilkins.

Kippel, J.H., Dieppe, P.A. (1994). **Rheumatology.** St. Louis: Mosby.

Kirsteins, A.E., Dietz, F.D., Hwang, S.W. (1991). Evaluating the safety and potential use of a weight-bearing exercise, Tai-Chi Chuan, for rheumatoid arthritis patients. **American Journal of Physical Medicine & Rehabilitation,** 70(3): 136-141.

Kisner, C., Colby, L.N. (1996). **Therapeutic Exercise : Foundations and Techniques.** Third edition. Philadelphia: F.A. Davis Company

Klepper, S.E. (1999). Effects of an eight-week physical conditioning programme on disease signs and symptoms in children with chronic arthritis. **Arthritis Care & Research,** 12(1): 52-60.

Komatireddy, G.R., Leitch, R.W., Cella, K., Browning, G., Minor, M. (1997). Efficicacy of low load resistive muscle training in patients with rheumatoid arthritis functional class II and III. **The Journal of Rheumatology,** 24(8): 1531-1539.

Leek, J.C., Gershwin, M.E., Fowler, W.M. Jr., (1986). **Principles of Physical Medicine and Rehabilitation in the Musculoskeletal Diseases.** Orlando: Grune & Stratton, Inc. Harcoure Brocc Jovanovich, Publishers.

Liang, M.H., Logigian, M.K., (1992). **Rehabilitation of Early Rheumatoid Arthritis.** First edition. London: Little Brown & Company.

Lorig, K., Fries, J.F. (1990). **The Arthritis Helpbook.** New York: Addison – Wesley Publishing Company.

Lyngberg, K.K., Ramsing, B.U., Nawracki, A., Harreby, M. (1994). Safe and effective knee extension training in Rheumatoid Arthritis. **Arthritis & Rheumatism,** 37(5): 623-628.

McArdle, W.D., Katch, F.I., Katch, V.L. (1991). **Exercise Physiology.** Third edition. Malvern: Lea & Febiger.

McMeeken , J., Stillman, B., Story, I., Kent, P., Smith, J. (1999). The effects of knee extensor and flexor muscle training on the timed-up and go test in individuals with rheumatoid arthritis. **Physiotherapy Research International,** 4(1): 55-67.

MacDougall, J.D., Wenger, H.A., Green, H.J. (1991). **Physiological Testing of the High Performance Athlete.** Second edition. Illinois: Human Kinetic Books.

Martini, F.H. (1995). **Fundamentals of Anatomy and Physiology.** New Jersey: Prentice Hall, Inc.

MayoClinic. (1998). Rheumatoid Arthritis. Treatment Options. Internet. http://www.healingwell.com. Entry date 14 Mar. 2000.

Meiring, J.H., Loots, S.W., Liebenberg, S.W., Marais, H., van Heerden, L., Coetzee, H.L., Jacobs, C.J. (1993). **Anatomy for the Medical Scientific Student.** Academia. Pretoria: South Africa.

Melton-Rogers, S., Hunter, G., Walter, J., Harrison, P. (1996). Cardiorespiratory Responses of Patients with Rheumatoid Arthritis during bicycle riding and running in water. **Physical Theraphy,** 76(10):1058-1065.

Memmler, R.L., Cohen, B.J., Wood, D.L. (1996). **The Human Body in Health and Disease.** Eigth edition. Philadelphia: Lippincott.

Minor, M.A., Hewett, J.E. (1995). Physical fitness and work capacity in women with rheumatoid arthritis. **Arthritis Care & Resarch,** 8(3): 146-154.

Moskowitz, R.W., Howell, D.S., Goldberg, V.M., Mankin, H.J. (1984). **Osteoarthritis.** Philadelphia: W.B. Saunders Company.

Nieman, D.C. (2000). Exercise Soothes Arthritis. Joint effects. **American College of Sports Medicine Fitness Journal,** 4(3): 20-27.

Nordesjö, L.O., Nordgren, B., Wigren, A., Kolstad,K. (1983). Isometric strength and endurance in patients with severe rheumatoid arthritis or osteoarthrosis in the knee joints. **Scandinavian Journal of Rheumatology,** 12: 152-156.

Noreau, L., Martineau, H., Roy, L., Belzile, M. (1995). Effects of a modified dance based exercise on cardiorespratory fitness, psychological state and health status of persons with Rheumatoid Arthritis. **American Journal of Physical Medicine & Rehabilitation,** 74(1): 19-27.

O'Sullivan, S.B., cullen, K.E., Schmitz, T.J. (1981). **Physical Rehabilitation - Education & Treatment Procedures.** Philadelphia: F.A. Davis Company.

Partridge, A.J. (1988). Psychosocial Aspect of the Rehumatic Diseases. **Primer on the Rheumatic Diseases: INDOCID.** Ninth edition. Atlanta: Arthritis Foundation.

Perrin, D.H. (1993). **Isokinetic Exercise & Assessment.** Champaign: Human Kinetic Publishers.

Prentice, W. (1991). **Fitness for College and Life.** Fourth edition. Missouri: Mosby.

Rall, L.C., Meydani, S.M., Kehayias, J.J., Dawson-Hughes, B., Roubenoff, R. (1996). The effect of progressive resistance training in rheumatoid arthritis. **Arthritis & Rheumatism,** 39(3): 415-426.

Resnick, D. (1995). **Diagnosis of Bone & Joint Disorders.** Third edition. Philadelphia: W.B. Saunders Company.

Rimmer, J.H. (1994). **Fitness and Rehabilitation Programs for Special Populations.** Madison: Brown & Benchmark.

Ritchie, D.M., Doyle, J.A., McGinnis, J.M. (1968). Clinical studies with an articular index for the assessment of joint tenderness in patients with RA. **Quarterly Journal of Medicine,** 37 : 393-406.

Roy, S., Irvin, R. (1983). **Sports Medicine : Prevention, Evaluation, Management & Rehabilitation.** New Jersey: Prentice-Hall, Inc.

Samples, P. (1990). Exercise encouraged for people with arthritis. **The Physician & Sports Medicine.** 18(1): 122-127.

Sayce, V., Fraser, I. (1997). **Exercise Beats Arthritis.** Third edition. Australia: Fraser Publications.

Scammel, H., Horstmen, J., Scala, J. (1996). Features of rheumatoid arthritis. Arthritis Resource Centre. Internet. http://www.healingwell.com. Entry date 14 Mar. 2000.

Schaumacher, H.R., Gall, E.P. (1988). **Rheumatoid Arthritis and Illustrated Guide to Pathology, Diagnosis and Management.** Philadelphia: J.B. Lippincott Company.

Schlotzhauer, T.L. McGuire, J.L. (1993). **Living with Rheumatoid Arthritis.** Baltimore: The Johns Hopkins University Press.

Schnitzler, E.M. (2000). Osteoporosis in arthritis sufferers. **Joint Attack.** June, 3-4.

Semble, E.L., Loeser, R.F., Wise, C.M. (1990). Therapeutic exercise for rheumatoid arthritis and osteoarthritis. **Seminars in Arthritis & Rheumatism,** 10(1): 32-40.

Shephard, R.J., Shek, P.N. (1997). Autoimmune disorders, physical activity, and training with particular reference to rheumatoid arthritis. **Exercise Immunology Review,** 3: 53-67.

Simkin, P.A. (1988). Joints : structure and function. **Primer on the Rheumatic Diseases: INDOCID.** Ninth edition. Atlanta: Arthritis Foundation.

Simon, L., Blotman, F. (1981). Exercise therapy and hydrotherapy in the treatment of the rheumatic diseases. **Clinics in Rheumatic Diseases,** 7(2): 337-347.

Sledge, C.B. (1988). Surgical management of arthritis. **Primer on the Rheumatic Diseases: INDOCID.** Ninth edition. Atlanta: Arthritis Foundation.

Smit, C. (1979). **Growth & Sport.** Durban: Butterworth & Co.

Smit, C. (1999). **Afrestat Researches.** Personal communication.

Smolen, J.S., Kalden, J.R., Maini, R.N. (1992). **Rheumatoid Arthritis : Recent Research Advances.** Berlin: Germany. Springer-Verlag.

Sobel, D., Klein, A.C. (1993). **Arthritis : What Exercises Work.** New York: St. Martin's Griffin.

Stenström, C.H., Lindell, B., Swanberg, E., Swanberg, P., Harms-Ringdahl, K., Nordemor, R. (1991). Intensive dynamic training in water for rheumatoid arthritis function class II – a long-term study of effects. **Scandinavian Journal of Rheumatology,** 20: 238-365.

Swezey, R.L. (1978). **Arthritis Rational Therapy and Rehabilitation.** Philadelphia: W.B. Saunders Company.

Tiselius, P. (1969). Studies on joint temperature, joint stiffness and muscle weakness in rheumatoid arthritis : an experimental and clinical investigation. **Acta Rheumatology Scandinavia,** 14: 70-98.

Thomas, J.R., Nelson J.K., (1990). **Research Methods in Physical Activity.** Second edition. Champaign, Illinois: Human Kinetics Books.

Tompson, J.M. (1998). **Arthritis : Everything you need to know about Arthritis.** South Africa: Zebra Press.

Tork, S.C., Douglas, V. (1989). Arthritis water exercise program evaluation. A self-assessment survey. **Arthritis Care & Research,** 2(1): 28-30.

Trombly, C.A. Third edition. **Occupational Therapy for Physical Dysfunction.** America: Williams & Wilkins.

Unproven Remedies for Arthritis Treatment. Arthritis Foundation. Roggebaai, South Africa.

USA College of Foot & Ankle Surgeons (1997). Arthritic Disorders & Treatments. Internet. http://www.acias.org. Entry date 4 Nov. 2000.

Van den Ende, C.H.M., Hazes, J.M.W., le Cessie, S., Mulder, W.J., Belfor, D.G., Breedveld, F.C., Dijkmans, B.A.C. (1996). Comparison of high and low intensity training in well controlled rheumatoid arthritis. Results of a randomised clinical trial. **Annals of Rheumatic Diseases,** 55: 798-805.

Van den Ende, C.H.M., Breedveld, F.C., Dijkmans, B.A.C, J.M.W. (1997). The limited value of the Health Assessment Questionnaire as an Outcome Measure in short-term exercise trials. **The Journal of Rheumatology,** 24(10): 1972-1977.

Van den Ende, C.H.M., Vliet Vleiland, T.P.M., Unneke, M., Hazes, J.M.W. (1998). Dynamic exercise therapy in rheumatoid arthritis a systematic review. **British Journal of Rheumatology,** (37): 677-687.

Van den Ende, C.H.M., Breedveld, F.C., le Cessie, S., Dijkmans, B.A.C., de Mug, A.W. (2000). Effect of intensive exercise on patients with active rheumatoid arthritis : a randomised clinical trial. **Annals of Rheumatic Diseases,** 59: 615-621.

Vleiland, T.P.M., van den Ende, C.H.M., Breedveld, F.C., Hazes, J.M.W. (1993). Evaluation of joint mobility in rheumatoid arthritis trials : the value of the EPM range of motion scale. **The Journal of Rheumatology,** 20(12): 2020 – 2014.

Walker, J.M., Heleva, A. (1996). **Physical Therapy in Arthritis.** Philadelphia: W.B. Saunders Company.

Walter, S.D., Hart, L.E. (1990). Application of epidemiological methodology to sports and exercise science. **Exercise & Sport Sciences Reviews,** 18: 417-448.

Weider, M. (2000). Slowing down the progression of rheumatism. **Science of Nature,** 1: 2.

Ytterberg, S.R., Mahowald, M.L., Krug, H.E. (1994). Exercise for arthritis. **Baillieres Clinical Rheumatology,** 9(1) : 161-187.

Zvaifler, N.J. (1988). Epidemiology, etiology, rheumatoid factor, pathology, pathogenesis. **Primer on the Rheumatic Diseases: INDOCID.** Ninth edition. Atlanta: Arthritis Foundation.

APPENDIX A

INDEMNIFICATION

I, ... (full name of prospective participant), submit myself herewith to the Sports Research Institute of the University of Pretoria (hereafter referred to as the **UNIVERSITY**), to the services and facilities of the said **UNIVERSITY**, for the purpose of an official research project.

And, whereas I am aware of the fact that it may constitute a potential risk to my health to participate in the research project, I hereby declare that I participate in the said research project at my own risk, and that I hereby totally indemnify the **UNIVERSITY** and all its appointed employees and co-workers.

I hereby declare that there is no information withheld by myself or by the parties listed above that could exclude me from participating in this research project.

I furthermore authorise the **UNIVERSITY** to publish and use any results forthcoming from the research project, and declare that I have no claim to any remuneration or compensation therefrom.

Signed at ..... on this ..... day of 2001

.....
Signature of the prospective participant

Tel: (h) ..... (w) ....
Code and Number Code and Number Cell

WITNESSES

1. .....

2. .....

(University of Pretoria, Institute for Sports Research)

APPENDIX B

STEINBROCKER CRITERIA FOR R.A. CLASSIFICATION

CLASSIFICATION OF FUNCTION IMPAIRMENT

The following classification of functional impairment is recommended as an adjunct to the criteria for the stages of rheumatoid arthritis.

CLASS 1 : **Complete functional capacity with ability to carry on all usual duties without handicaps.**

CLASS 2 : **Functional capacity adequate to conduct normal activities despite handicap of discomfort or limited mobility of one or more joints.**

CLASS 3 : **Functional capacity adequate to perform only little or none of the duties of usual occupation or self-care.**

CLASS 4 : **Largely or wholly incapacitated with patient bedridden or confined to wheel-chair, permitting little or no self-car.**

(Ball & Koopman, 1986)

APPENDIX C

NUMBER OF TENDER & SWOLLEN JOINTS

Was exam performed? **No** ☐ (if no, give reason in comments) **Yes** ☐

Date completed: .....
Day-Month-Year

Perform exam with patient in **SITTING** position

TENDER JOINT SCALE
0 = No pain
1 = Patient states that there is pain
2 = Patient states that there is pain and winces
3 = Patient states that there is pain, winces, and withdraws

SWOLLEN JOINT SCALE:
0 = Absent
1 = Detectable synovial thickening without loss of bony contours
2 = Loss of distinctiveness of bony contours
3 = Bulging synovial proliferation with cystic characteristics

RIGHT			JOINT LOCATION	LEFT		
Joint Not Evaluable	Tender Joint Score	Swollen Joint Score		Joint Not Evaluable	Tender Joint Score	Swollen Joint Score
☐	0 1 2 3	0 1 2 3	Temporomandibular	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Acromioclavicular	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Sternoclavicular	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Shoulder	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Elbow	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Wrist	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MCP 1 (hand)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MCP 2 (hand)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MCP 3 (hand)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MCP 4 (hand)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MCP 5 (hand)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Thumb IP	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger PIP 2	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger PIP 3	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger PIP 4	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger PIP 5	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger DIP 2	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger DIP 3	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger DIP 4	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Finger DIP 5	☐	0 1 2 3	0 1 2 3

COMMENTS:

Investigator's name:	**Investigator's initials:**	**Date:**

NUMBER OF TENDER & SWOLLEN JOINTS

Was exam performed? **No** ☐ (if no, give reason in comments) **Yes** ☐

Date completed: ..... **(Day-Month-Year)**

Perform exam with patient in **SITTING** position

TENDER JOINT SCALE
0 = No pain
1 = Patient states that there is pain
2 = Patient states that there is pain and winces
3 = Patient states that there is pain, winces, and withdraws

SWOLLEN JOINT SCALE:
0 = Absent
1 = Detectable synovial thickening without loss of bony contours
2 = Loss of distinctiveness of bony contours
3 = Bulging synovial proliferation with cystic characteristics

RIGHT			JOINT LOCATION	LEFT		
Joint Not Evaluable	Tender Joint Score	Swollen Joint Score		Joint Not Evaluable	Tender Joint Score	Swollen Joint Score
☐	0 1 2 3		Hip	☐	0 1 2 3	
☐	0 1 2 3	0 1 2 3	Knee	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Ankle	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Tarsus	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MTP 1 (Foot)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MTP 2 (Foot)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MTP 3 (Foot)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MTP 4 (Foot)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	MTP 5 (Foot)	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Great Toe PIP	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Toe PIP/DIP 2	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Toe PIP/DIP 3	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Toe PIP/DIP 4	☐	0 1 2 3	0 1 2 3
☐	0 1 2 3	0 1 2 3	Toe PIP/DIP 5	☐	0 1 2 3	0 1 2 3

GRAND COUNT OF **TENDER** JOINTS

(Scores of 1, 2 or 3) ☐

GRAND COUNT OF **SWOLLEN** JOINTS

(Scores of 1, 2 or 3) ☐

COMMENTS:

Investigator's name:	**Investigator's initials:**	**Date:**

(Ritchie et al., 1968)

APPENDIX D

HEALTH ASSESMENT QUESTIONNAIRE

Was assessment completed? ***No*** □ (If no, give reason in comments) ***Yes*** □

Date completed: ……
Day/Month/Year

In this section we are interested in learning how your illness affects your ability to function in daily life.

Please tick the response with **best describes your usual abilities** during the past week:

	Without ANY Difficulty	**With SOME Difficulty**	**With MUCH Difficulty**	**UNABLE To Do**
DRESSING & GROOMING **Are you able to:**				
- Dress yourself, including tying Shoelaces and doing buttons?	□	□	□	□
- Shampoo your hair?	□	□	□	□
ARISING **Are you able to:**	□ □	□ □	□ □	□ □
- Stand-up from a straight chair?	□	□	□	□
- Get in and out of bed?	□	□	□	□
EATING **Are you able to:**	□	□	□	□
- Cut your meat?				
- Lift a full cup or glass to your mouth?				
- Open a new milk carton?				

COMMENTS

I confirm that the information on this module is accurate	**Patient's Initials:**	**Date**
Investigator's Name:	**Staff's Initials:**	**Date**

HEALTH ASSESSMENT QUESTIONNAIRE

Please tick the response which <u>best describes your usual abilities</u> DURING THE PAST WEEK

	Without ANY Difficulty	With SOME Difficulty	With MUCH Difficulty	UNABLE To Do
<u>WALKING</u> **Are you able to:** - Walk outdoors on level ground? - Climb up five steps?	□ □	□ □	□ □	□ □

Please tick any AIDS or DEVICES that you usually use for any of the following activities (dressing and grooming, arising, eating, walking):

□Cane; □Crutches; □Built-up or special utensils; □Walker;
□Wheelchair; □ Special or built-up chair; □Devices used for dressing:
□ Other (*specify):* .....

.....

.....

Please tick any categories for which you usually need HELP FROM ANOTHER PERSON:

□Dressing & Grooming; □Arising; □Eating; □Walking;

I confirm that the information on this module is accurate	**Patient's Initials:**	**Date**
Investigator's Name:	**Staff's Initials:**	**Date**

HEALTH ASSESSMENT QUESTIONNAIRE

Please tick the response which <u>best describes your usual abilities</u> DURING THE PAST WEEK

	Without ANY Difficulty	With SOME Difficulty	With MUCH Difficulty	UNABLE To Do
<u>HYGIENE</u> **Are you able to:**				
- Wash and dry your body?	☐	☐	☐	☐
- Take a tub bath?	☐	☐	☐	☐
- Get on and off the toilet?	☐	☐	☐	☐
<u>REACH</u> **Are you able to:**	☐	☐	☐	☐
- Reach and set down a 2,25 kg object (such as a packet of sugar), from just above your head?	☐	☐	☐	☐
- Bend-down to pick-up clothing from the floor?	☐	☐	☐	☐
<u>GRIP</u> **Are you able to:**				
- Open car doors?				
- Open a jar, previously opened?				
- Turn a tap on and off?				

I confirm that the information on this module is accurate	**Patient's Initials:**	**Date**
Investigator's Name:	**Staff's Initials:**	**Date**

HEALTH ASSESSMENT QUESTIONNAIRE

Please tick the response which <u>best describes your usual abilities</u> DURING THE PAST WEEK

	Without ANY Difficulty	With SOME Difficulty	With MUCH Difficulty	UNABLE To Do
<u>ACTIVITIES</u> **Are you able to:**				
- Run errands and shop?	□	□	□	□
- Get in and out of a car?	□	□	□	□
- Do chores such as vacuuming or gardening?	□	□	□	□

Please tick any AIDS or DEVICES that you usually use for any of the following activities (hygiene, reach, gripping and opening objects, errands and chores):

□Raised toilet seat; □Bathtub bar; □Bathtub seat;
□Long-handled appliances for reach; □Long-handled appliances in bathroom
□Jar opener (for jar previously opened);
□ Other (*specify*): .....

.....

.....

Please tick any categories for which you usually need HELP FROM ANOTHER PERSON:

□Hygiene; □Reach; □Gripping and opening objects; □Errands and chores;

I confirm that the information on this module is accurate	**Patient's Initials:**	**Date**
Investigator's Name:	**Staff's Initials:**	**Date**

POMS

APPENDIX E

Name: ..... **Date:** .....

Below is a list of ratings describing the attitude of other patients. Please read carefully and mark with an X which best describes how you feel.

Key for ratings: 0 = not at all; 1 = a little; 2 = moderate; 3 = very; 4 = extremely

	Not at all A little Moderately Very Extremely		Not at all A little Moderately Very Extremely		Not at all A little Moderately Very Extremely
Friendly	0 1 2 3 4	Unworthy	0 1 2 3 4	Desperate	0 1 2 3 4
Tense	0 1 2 3 4	Spiteful	0 1 2 3 4	Sluggish	0 1 2 3 4
Angry	0 1 2 3 4	Sympathetic	0 1 2 3 4	Rebellious	0 1 2 3 4
Worn-out	0 1 2 3 4	Uneasy	0 1 2 3 4	Helpless	0 1 2 3 4
Unhappy	0 1 2 3 4	Restless	0 1 2 3 4	Weary	0 1 2 3 4
Clear-headed	0 1 2 3 4	Unable to concentrate	0 1 2 3 4	Bewildered	0 1 2 3 4
Lively	0 1 2 3 4	Fatigued	0 1 2 3 4	Alert	0 1 2 3 4
Confused	0 1 2 3 4	Helpful	0 1 2 3 4	Deceived	0 1 2 3 4
Sorry for things done	0 1 2 3 4	Annoyed	0 1 2 3 4	Furious	0 1 2 3 4
Shaky	0 1 2 3 4	Discouraged	0 1 2 3 4	Efficient	0 1 2 3 4
Listless	0 1 2 3 4	Resentful	0 1 2 3 4	Trusting	0 1 2 3 4
Peeved	0 1 2 3 4	Nervous	0 1 2 3 4	Full of Pep	0 1 2 3 4
Considerate	0 1 2 3 4	Lonely	0 1 2 3 4	Bad-tempered	0 1 2 3 4
Sad	0 1 2 3 4	Miserable	0 1 2 3 4	Worthless	0 1 2 3 4
Active	0 1 2 3 4	Muddled	0 1 2 3 4	Forgetful	0 1 2 3 4
On Edge	0 1 2 3 4	Cheerful	0 1 2 3 4	Carefree	0 1 2 3 4
Grouchy	0 1 2 3 4	Bitter	0 1 2 3 4	Terrified	0 1 2 3 4
Blue	0 1 2 3 4	Exhausted	0 1 2 3 4	Guilty	0 1 2 3 4
Energetic	0 1 2 3 4	Anxious	0 1 2 3 4	Vigorous	0 1 2 3 4
Panicky	0 1 2 3 4	Ready to fight	0 1 2 3 4	Uncertain about things	0 1 2 3 4
Hopeless	0 1 2 3 4	Good-natured	0 1 2 3 4	Tired	0 1 2 3 4
Relaxed	0 1 2 3 4	Gloomy	0 1 2 3 4		

(Educational & Industrial Testing Service, 1971)

APPENDIX F

EVALUATION FORMS

NAME: .....

AGE: ..... **DR.:** .....

DISEASE DURATION: .....

MEDICATION: .....

JOINTS AFFECTED: .....

OTHER: .....

ASSESSMENT

	1	2	3
DATE OF ASSESSMENT:	.....	.....	.....
PATIENT			
1. HAQ	.....	.....	.....
2. POMS	.....	.....	.....
CLINICAL			
3. Steinbrocker	.....	.....	.....
4. ACR20:	.....	.....	.....
LABORATORY			
5. ESR	.....	.....	.....
6. Heamoglobin	.....	.....	.....
Functional			
7. Height	.....	.....	.....
8. Body Mass	.....	.....	.....
9. Blood pressure	.....	.....	.....
10. 15,24m walk	.....	.....	.....

11. Grip strength	R ..... L	R ..... L	R ..... L .....
12. VO^2 Max			
Relative	.....	.....	.....
Absolute	.....	.....	.....
13. Cybex			
Ham [r]	R ..... L	R ..... L	R ..... L .....
Ham [a]	R ..... L	R ..... L	R ..... L .....
Quads [r]	R ..... L	R ..... L	R ..... L .....
Quads [1]	R ..... L	R ..... L	R ..... L .....
Ratio	R ..... L	R ..... L	R ..... L .....
14. Range of Motion			
Wrist [e]	R ..... L	R ..... L	R ..... L .....
Wrist [d]	R ..... L.....	R ..... L	R ..... L .....
Knee [e]	R ..... L	R ..... L	R ..... L .....
Knee [f]	R ..... L	R ..... L	R ..... L .....