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20030303 059

July 2002

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**Title and Subtitle:**
Publications and Presentations of the Ophthalmology Branch-USAFA School of Aerospace Medicine

**Dates Covered:**
1971-1980

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**Performing Organization Name(s) and Address(es):**

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**Performing Organization Report Number:**
SAM-FE-BR-SR-2002-0003

**Abstract:**
Aerospace ophthalmology combines the practice of Clinical Ophthalmology and Aerospace Medicine in attempting to solve the visual and ophthalmological problems of the aviator and astronaut. The Ophthalmology Branch of the USAF School of Aerospace Medicine has exclusively performed this task for nearly 85 years. The visual problems and solutions proposed are documented in the publications and invited presentations of Ophthalmology Branch personnel, listed for the years 1971 through 1980. They deal primarily with applied visual and clinical topics; such as, visual standards for flying, the use of contact lenses in aviation, visual illusions and aircraft accidents, air-to-air target acquisition, management of glaucoma in flying personnel, the effect of ultra violet energy on the eye, laser energy effects on the eye, laser protective filters, color vision standards, microstrabismus in flying personnel, etc.

**Subject Terms:**
Aerospace ophthalmology, visual standards, refractive surgery, visual problems in aviation, aviators' vision, laser eye effects, color vision in aviation

**Security Classification of:**
- Report: Unclassified
- Abstract: Unclassified
- This Page: Unclassified

**Limitation of Abstract:**
UL

**Number of Pages:**
48
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971 Publications</td>
<td>1-2</td>
</tr>
<tr>
<td>1971 Presentations</td>
<td>3</td>
</tr>
<tr>
<td>1972 Publications</td>
<td>5-6</td>
</tr>
<tr>
<td>1972 Presentations</td>
<td>7</td>
</tr>
<tr>
<td>1973 Publications</td>
<td>9</td>
</tr>
<tr>
<td>1973 Presentations</td>
<td>10-11</td>
</tr>
<tr>
<td>1974 Publications</td>
<td>13</td>
</tr>
<tr>
<td>1974 Presentations</td>
<td>14-15</td>
</tr>
<tr>
<td>1975 Publications</td>
<td>17-18</td>
</tr>
<tr>
<td>1975 Presentations</td>
<td>19</td>
</tr>
<tr>
<td>1976 Publications</td>
<td>21</td>
</tr>
<tr>
<td>1976 Presentations</td>
<td>22-23</td>
</tr>
<tr>
<td>1977 Publications</td>
<td>25</td>
</tr>
<tr>
<td>1977 Presentations</td>
<td>26-28</td>
</tr>
<tr>
<td>1978 Publications</td>
<td>29</td>
</tr>
<tr>
<td>1978 Presentations</td>
<td>30-31</td>
</tr>
<tr>
<td>1979 Publications</td>
<td>33</td>
</tr>
<tr>
<td>1979 Presentations</td>
<td>34-36</td>
</tr>
<tr>
<td>1980 Publications</td>
<td>37-38</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
</tr>
<tr>
<td>1980 Presentations</td>
<td>39-40</td>
</tr>
</tbody>
</table>
1. TRANSPARENCIES USED IN MILITARY AVIATION AND THEIR EFFECTS ON VISION  
   Provines, Wayne F. and B. Kislin  

2. F-111 WINDSCREEN MULTIPLE IMAGE PHENOMENA  
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   Pitts, Donald G., T. J. Tredici

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3. EFFECTS OF RADIANT ENERGY ON THE EYE
   
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2. GLASS VERSUS PLASTIC – AN AIR FORCE REPLACEMENT DURABILITY STUDY
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5. AEROSPACE OPHTHALMOLOGY
   
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OPHTHALMOLOGY BRANCH

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   Mims, James L. III, T. J. Tredici

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5. BALLISTIC IMPACT TESTING OF SCRATCHED AND UNSCRATCHED OPHTHALMIC LENSES
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7. ORTHOKERATOLOGY – HELP OR HINDRANCE
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8. OPHTHALMIC ASSISTANTS
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USAF SCHOOL OF AEROSPACE MEDICINE

OPHTHALMOLOGY BRANCH

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6. MONOCULAR DIPLOPIA IN AIRCREW MEMBERS
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OPHTHALMOLOGY BRANCH

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USAF SCHOOL OF AEROSPACE MEDICINE

OPHTHALMOLOGY BRANCH

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   Welsh, Kenneth W., Quentin Bennett, B. Kislin

2. AN UP-TO-DATE LOOK AT EYE SAFETY
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   WITHOUT CONTACT LENSES
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8. MONOCULAR DIPLOPIA IN FLYING PERSONNEL
   Stampfer K. A., T. J. Tredici
9. EVALUATION OF POSSIBLE MICROWAVE INDUCED LENS CHANGES IN THE UNITED STATES AIR FORCE
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    Provines, W. F., B. Kislin

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OPHTHALMOLOGY BRANCH

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   Tredici, Thomas J.
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3. ORTHOKERATOLOGY
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   Foder W. J.

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   Life Sciences Section, Safety Officers, USAF Study Kit, October 1976.

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   FIELD TEST
   Provines, W. F.

9. HISTORY OF AIRCRAFT WINDSHIELD TRANSPARENCY
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OPHTHALMOLOGY BRANCH

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   Tredici, Thomas J.
   Lecture to the Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO) Technician Candidates As Part of Continuing Education Program, Las Vegas NV, 5 Oct 76.

2. TONOGRAPHY
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   Kislin, Benjamin
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   Tredici, Thomas J.
   Session Organizer, AGARD (NATO) Aerospace Medical Panel Specialist’s Meeting, 3-14 April 76, Copenhagen, Denmark.

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7. OPTOMETRY-OPHTHALMOLOGY TECHNICIAN TRAINING
   Tredici, Thomas J., Benjamin Kislin
   Interservice Training Review Organization (ITRO) Meeting, 21-23 September 76, Ft Sam Houston TX.
8. VISION WORKING GROUP #35
   Tredici, Thomas J.
   Host NAS Committee, 28-29 September 76, USAF School of Aerospace Medicine,
   Brooks AFB TX.

9. GLAUCOMA AND TONOMETRY
   Tredici, Thomas J.
   Lecture at Joint Commission on Allied Health Personnel in Ophthalmology,
   5 October 1976, Las Vegas NV.

10. TONOGRAPHY
    Tredici, Thomas J., Jack G. Muckeroy
    Lecture at Joint Commission on Allied Health Personnel in Ophthalmology,
    5 October 1976, Las Vegas NV.

11. CAREER DEVELOPMENT
    Kislin, Benjamin
    Lecture on Current Trends in Military Optometry Seminar, 18-22 Oct 76,
    Fitzsimons Army Medical Center, Denver CO.
PUBLICATIONS AND PRESENTATIONS OF THE OPHTHALMOLOGY BRANCH
USAF SCHOOL OF AEROSPACE MEDICINE

OPHTHALMOLOGY BRANCH

1977 Publications

1. GLAUCOMA: A REVIEW FOR THE USAF FLIGHT SURGEON
   Ryan R. P., T. J. Tredici

2. OCUSERT: A NEW METHOD OF PILOCARPINE TREATMENT OF
   GLAUCOMA IN THE AVIATOR
   Tredici, T. J.

3. RESEARCH ON THE OCULAR EFFECTS OF LASER RADIATION

4. PRIMATE-FIXATION DEVICE FOR RETINAL PHOTOGRAPHY AND
   EXPERIMENTAL HIGH LET RADIATION EXPOSURE
   Bonney, C. H, G. E. Conley, D. M. Hunter

5. PHOTOREACTIVE LENSES AND THE AIR FORCE FLYER
   Kislin B, T. J. Tredici

6. IMPACT RESISTANT LENSES
   Kislin, B.

7. IMPACT VULNERABILITY OF SCRATCHED GLASS LENSES
   Kislin, B., R. E. Swaim, J. W. Miller, J. R. Fischer

8. MULTIPLE IMAGES IN THE F/FB-111 AIRCRAFT WINDSHIELD: THEIR
   GENERATION, SPATIAL LOCALIZATION AND RECORDING
   Provines, W. F., B. Kislin, T. J. Tredici

9. OPTICAL EVALUATION OF F/FB-111 FIELD-SERVICE TEST WINDSHIELDS
   Provines, W. F., B. Kislin, T. J. Tredici
OPHTHALMOLOGY BRANCH

1977 Presentations

1. CONTACT LENS FITTING BY THE OPHTHALMOLOGIST
   Tredici, Thomas J.

2. ORTHOKERATOLOGY
   Tredici, Thomas J.
   Presentation at the Annual Contact Lens Society of America Meeting, Atlanta GA, 6 March 1977.

3. FACIAL NERVE AND LACRIMAL SYSTEM
   Klein, James W.
   Lecture on Basic and Clinical Science Course in Neuro-Ophthalmology, UT Health Science Center, San Antonio TX, 1-2 April 1977.

4. THE NEURO-OPHTHALMOLOGIC EXAMINATION
   Tredici, Thomas J., James W. Klein

5. VISUAL AIDS FOR THE AVIATOR AND USAF AVIATORS' SPECTACLES
   HGU-4/P
   Tredici, Thomas J. (Monitor)

6. ELECTRO-OCTULOGRAPHY: A RELATIVELY NEW TECHNIQUE FOR RETINAL EVALUATION
   Goodson, Richard A., Thomas J. Tredici

7. VISION WORKING GROUP #35, OCULAR EFFECTS OF MICROWAVE RADIATION
   Tredici, Thomas J.
   NAS-NRC Committee on Vision, USAF School of Aerospace Medicine, Brooks AFB TX 78235 – 30 June – 1 July 1977.
8. WORKSHOP ON TRANSPARENT MATERIALS
   Tredici, Thomas J., Wayne F. Provines
   20-21 Sept 1977, Dayton OH.

9. VISION WORKING GROUP #35, OCULAR EFFECTS OF MICROWAVE
   RADIATION
   Tredici, Thomas

10. OCULAR FINDINGS IN VIETNAM RPW'S, 1965-1973
    Klein, James W., Thomas J. Tredici
    Fourth Annual Joint Medical Meeting Concerning POW/MIA Matters, Ft Sam
    Houston TX, 4-5 Nov 1977.

11. AEROMEDICAL FACTORS OF AIR COMBAT CAPABILITIES
    Tredici, Thomas J., Benjamin Kislin
    Working Party 61 Symposium, Brooks AFB TX, 8-9 November 1977.

12. ORTHOKERATOLOGY
    Tredici, T. J.
    Presentation at Annual Contact Lens Society of America Meeting – Atlanta, GA,
    March 1977.

13. FACIAL NERVE AND LACRIMAL SYSTEM
    Klein, J. W.
    Lecture at Univ of Texas Health Science Center, SA TX, 1-2 April 1977.

14. THE NEURO-OPTHALMOLOGIC EXAMINATION
    Klein, J. W., T. J. Tredici
    Presentation at Annual Meeting of the Soc of Air Force Clinical Surgeons, San
    Antonio, TX, 18-20 April 1977.

15. OPHTHALMOLOGIC PROBLEMS AND DISEASES IN AVIATORS (A TEN-
    YEAR STUDY IN COURSE FOR REFERRAL TO USAFSAM)
    Heinrick W. D., T. J. Tredici, J. W. Klein
1977 Presentations (continued)

16. THE AEROMEDICAL DISPOSITION OF THE APHAKIC FLIER
   Paglin P.G., T. J. Tredici

17. ELECTRO-OCULOGRAPHY: A RELATIVELY NEW TECHNIQUE FOR RETINAL EVALUATION
   Goodson R.A., T. J. Tredici
1. TRANSMISSION AND ABSORPTION COEFFICIENTS FOR OCULAR MEDIA OF THE RHESUS MONKEY
   Mahor, E.F.

2. EVALUATION OF LASER-PROTECTION EYEWEAR

3. OPTIC NERVE VARIANT IN THE KLIPPEL-TRENAUNAY-WEBER SYNDROME
   O'Connor P.S., J. Lawton Smith

4. OPHTHALMOLOGIC PROBLEMS AND DISEASES IN USAF AVIATION
   (A TEN-YEAR STUDY IN CAUSE FOR REFERRAL TO USAFSAM)
   Tredici, T. J.

5. THE SHAPE OF 20/20 – A DISCUSSION OF ORTHOKERATOLOGY
   Tredici, T. J.
1. ROLE OF ORTHOKERATOLOGY: A PERSPECTIVE
   *Tredici, Thomas J.*
   Presentation at American Academy of Ophthalmology Meeting, Kansas City, MO.

2. OPHTHALMOLOGIC PROBLEMS AND DISEASES IN AVIATORS
   (A TEN-YEAR STUDY IN CASES FOR REFERRAL TO USAFSAM)
   *Heinrick, W. D., T. J. Tredici, J. W. Klein*
   Presentation at American Academy of Ophthalmology Meeting, Kansas City, MO.

3. OCUSERT- A NEW METHOD OF PILOCARPINE TREATMENT OF
   GLAUCOMA IN THE AVIATOR
   *Tredici, T. J., S. I. Hand, M. R. Coffman*

4. AIR FORCE OPTOMETRY-A BRIEFING
   *Klein, B.*
   Presented at Biomedical Science Corps Seminar Management Workshop,

5. OPTOMETRIC EDUCATION
   *Provines, W. F.*
   Presentation at Fourth USAF Optometry Seminar, Brooks AFB, TX 10-13 Jan 1978.

6. USAF VISION PROBLEMS
   *Tredici, T. J.*
   Meeting of the Executive Council of the Nat. Research Committee on Vision at
   USAFSAM Brooks AFB, TX. March 16-17 1978.

7. ORTHOKERATOLOGY UPDATE AND CONTACT LENS QUALITY CONTROL
   *Tredici, T. J.*
   Lecture at New York Eye and Ear Infirmary Postgraduate Institute Program, New
   York City 12-13 April 1978.
1978 Presentations (continued)

8. AVIATION AND SPACE OPHTHALMOLOGY-PAST & PRESENT
   Tredici, T. J.
   Featured Speaker at St. Louis Ophthalmological Soc. Meeting, St. Louis, MO
   27 April 1978.

9. OCUSER-T-A NEW METHOD OF PILOCARPINE TREATMENT OF
   GLAUCOMA IN THE AVIATOR
   Tredici, T. J.
   Presented at Aerospace Medical Association Meeting, New Orleans, LA
   7-11 May 1978.

10. THE GENERATION AND VISUAL DETECTION OF MULTIPLE IMAGES IN
    AIRCRAFT WINDSHIELDS
    Provines, W. F.
    Presented at Aerospace Medical Association Meeting, New Orleans, LA
    7-11 May 1978.

11. OCULAR FINDINGS IN VIETNAM RPW'S, 1965-1973
    Klein, J. W.
    Presented at Aerospace Medical Association Meeting, New Orleans, LA
    7-11 May 1978.

12. THE EFFECT OF TOPICAL MYDRIACYL AND PHENYLEPHRINE ON
    CARDIAC RATE AND RHYTHM
    Coffman, M. R.
    Presented at Aerospace Medical Association Meeting, New Orleans, LA
    7-11 May 1978.

13. HISTORY OF THE USAF SCHOOL OF AEROSPACE MEDICINE
    Kislin, B.
    Presentation at Continuing Education Program, New England College of
    Optometry, Boston, MA 14-15 Nov 1978.

14. THE EFFECTS OF VISUAL TRAINING ON NORMAL VISION
    Goodson, R. A
    Presentation at Amer. Academy of Optometry Congress, Boston, MA
    7-12 Dec 1978.

15. EYE FINDINGS IN RPWS
    Tredici, T. J.
    Presentation at Tri-service RPW Conference, Brooks AFB, TX Sept 1978.
1. ROLE OF ORTHOKERATOLOGY: A PERSPECTIVE
   Tredici, T. J.

2. THE UNITED STATES AIR FORCE SCREENING AND MANAGEMENT
   PROGRAM FOR GLAUCOMA-EVALUATION AFTER TEN YEARS
   Tredici, T. J.
   Chapter in Glaucoma Update edited by Halberg g.P. Inter-Optics Publication New

3. CHIASMAL Ependymoma
   O'Connor P.S., J. Lawton Smith

4. A SEARCH FOR A NEW AIRCREW SPECTACLE FRAME
   Kislin B, J. W. Miller, A. J. Rahe

5. ACUTE OPTIC NEURITIS: PROGRAM FOR THE DEVELOPMENT OF
   MULTIPLE SCLEROSIS
   O'Connor, P. S.

6. OCULAR FINDINGS IN VIETNAM RPWS 1965-1973
   Tredici, T. J., J. W. Klein
   5-9 Nov 1979.

7. POLYCARBONATE VERSUS CR-39 LENSES: A FIELD STUDY
   Miller, J. W., B. Kislin, T. J. Tredici, A. J. Rahe
1. PRESCRIPTION SUNGLASS REQUIREMENTS FOR THE ARMY, NAVY, AND AIRFORCE
   Tredici, T. J. (Chairperson)
   Tri-Service Optical Study Group Seminar, Brooks AFB TX, Jan 1979.

2. VISUAL STANDARDS FOR FLYING
   Tredici, T. J.
   Presentation at the Flying Physical Standards Meeting, Brooks AFB TX, Jan 1979.

3. BLEPHAROSPASM
   O'Connor, P. S.

4. VISUAL STANDARDS FOR ENTRY INTO PILOT TRAINING IN THE USAF-
   PHILOSOPHY AND RECOMMENDATIONS
   Tredici, T. J.
   Presentation at the Conference on Flying Physical Standards for the 1980s, Brooks AFB TX, April 1979.

5. MIGRAINE IS MORE THAN A HEADACHE
   O'Connor, P. S.

6. GLAUCOMA AND THE FLYER
   Tredici, T. J.

7. SPECIFIC REQUIREMENTS FOR TESTING COLOR VISION IN RELATION TO SEA AND AIR TRANSPORTATION SYSTEMS
   Tredici, T. J.
8. RESEARCH NEEDS RELATING TO AIRCREW VISUAL REQUIREMENTS, VISUAL AND CLINICAL CONSIDERATIONS
   Tredici, T. J.

9. SIXTY YEARS OF AEROSPACE OPHTHALMOLOGY
   Tredici, T. J.

10. NEURO-OPHTHALMOLOGICAL PROBLEMS AND DISEASES IN USAF AVIATORS-A 15 YEAR STUDY IN CAUSE FOR REFERRAL
    O'Connor, P. S., E. E. Kirby, T. J. Tredici

11. THE EFFECT OF HYPERBARIC OXYGEN ON VISION
    Tredici, T. J.

12. THE PUPIL, C. MILLER FISHER SYNDROME
    O'Connor, P. S.
    Lecture to Staff Wilford Hall USAF Medical Center, Lackland AFB TX 10 July 1979.

13. DOMINANT OPTIC NERVE ATROPHY
    O'Connor, P. S.
    Presentation at Univ of Texas Grand Rounds, Univ of Texas HS Center, San Antonio, TX July 1979.

14. SIXTY YEARS OF AEROSPACE OPHTHALMOLOGY (EXHIBIT)
    Tredici, T. J.

15. OCULAR FINDINGS IN RPWS
    Tredici, T. J.

16. AEROSPACE OPHTHALMOLOGY, 1918-1979
    Tredici, T. J.
1979 Presentations (continued)

17. GLAUCOMA AND Tonometry
   Tredici, T. J.
   Presentation at Continuing Education Program of the Joint Commission on Allied
   Health Personnel in Ophthalmology (JCAHPO), San Francisco, CA, 1-3 Nov
   1979.

18. AIR-TO-AIR TARGET ACQUISITION
   Goodson, R. A.

19. AIR-TO-AIR TARGET ACQUISITION
   Goodson, R. A.
   Presentation at the Tri-Service Aeromedical Research Coordinating Panel (TARP)

20. AIRCRAFT GLARE-SHIELD
   Woessner, W. M.
   Lecture to Operations Personnel, Military Personnel Center, Randolph AFB TX,
1. LIGHT TRANSMISSION CHARACTERISTICS OF TINTED CONTACT LENSES OF VARYING CENTER THICKNESS

2. CHOROIDAL OSTEOMA A NEW CLINICOPATHOLOGIC SYNDROME
   O'Connor, P. S.

3. VISUAL ACUITY AND AIR-TO-AIR TARGET ACQUISITION
   Goodson, R. A.

4. AIR-TO-AIR TARGET ACQUISITION: FACTORS AND MEANS OF IMPROVEMENT
   Costanya, E. B., S. R. Stacey, H. L. Snyder

5. THE EFFECT OF TOPICAL MYDRIACYL AND PHENYLEPHRINE ON CARDIAC RATE AND RHYTHM
   Coffinan M. R., J. W. Klein, T. J. Tredici

6. MILES DEVICE: OCULAR HAZARD EVALUATION

7. VISUAL ILLUSIONS AS A PROBABLE CAUSE OF AIRCRAFT ACCIDENTS
   Tredici, T. J.

8. SCREENING AND MANAGEMENT OF GLAUCOMA IN FLYING PERSONNEL
   Tredici, T. J.
   Military Medicine, Vol 145, No. 1, Jan 1980.
1980 Publications (continued)

9. IMPACT VULNERABILITY OF DRILLED CR-39 LENSES
   Provines, W. F., J. W. Miller, T. J. Tredici
   Optic Index, Vol 55, No. 6, June 1980.

10. VISUAL AND CLINICAL CONSIDERATIONS
    Tredici, T. J.
    Proceeding of the 1979 Symposium on Research Needs Relating to Aircrew Visual
    Requirements Naval Air Systems Command Report No. NADC 79253-60, 11
    April 1980.

11. TRAINING FOR AIR-TO-AIR TARGET ACQUISITION
    Goodson, R. A.
    Final Report Contract F33615-79-C-0615 Honeywell, Inc. USAFSAM Brooks
    AFB TX, 1980.
OPHTHALMOLOGY BRANCH

1980 Presentations

1. HISTORICAL DEVELOPMENT OF ORTHOKERATOLOGY AND SUMMARY OF PRESENT TECHNIQUES
   Tredici, Thomas J.
   National Symposium of the Contact Lens Association of Ophthalmologists, Las Vegas NV, 11-12 Jan 1980.

2. NEW CONCEPTS IN VISION CORRECTION FOR FLYERS
   Tredici, Thomas J.
   Briefing to Commandant, RAF Institute of Aviation Medicine USAF School of Aerospace Medicine, Brooks AFB TX, 16 Jan 1980.

3. NEURO-OPHTHALMOLOGY
   O'Connor, Patrick S
   Briefing, Ophthalmology Residents, University of Texas Health Science Center, San Antonio TX, Jan 1980.

4. PROJECTED OPHTHALMOLOGICAL/VISUAL PROGRAMS FOR THE IDENTIFICATION, SELECTION AND MAINTENANCE OF VISUALLY SUPERIOR PILOTS
   Tredici, Thomas J.
   Presentation, Aerospace Medicine Division, Brooks AFB TX, Feb 1980.

5. MANAGEMENT OF OPHTHALMIC CASUALTIES IN SOUTHEAST ASIA
   Tredici, Thomas J.

6. AEROSPACE OPHTHALMOLOGY, 60 YEARS
   Tredici, Thomas J.

7. VISUAL ILLUSIONS AND AIRCRAFT ACCIDENTS
   Tredici, Thomas J.
8. NEURO-OPTHALMOLOGY
   O'Connor, Patrick S.
   Presentation, Fourth Annual Meeting of the Christian Ophthalmological Society,
9. EXTRAOCULAR MUSCLE INVOLVEMENT IN PERRY ROMBERG
   SYNDROME
   O'Connor, Patrick J.
10. BIETTI'S CRYSTALLINE DYSTROPHY OF THE RETINA: REPORT OF A
    FAMILY
    O'Connor, Patrick S.
11. ACEPHALGIC MIGRAINE—15 YEAR'S EXPERIENCE
    O'Connor, P. S. T. J. Tredici
    Presentation, Annual Meeting of the American Academy of Ophthalmology,
    Chicago IL, 2-7 Nov 1980.
12. LIGHT TRANSMISSION CHARACTERISTICS OF TINTED CONTACT
    LENSES OF VARYING CENTER THICKNESSES
    Tredici, Thomas J., T. D. Tredici
    Poster Presentation, Annual Meeting of the American Academy of Ophthalmology,
    Chicago, IL, 2-7 Nov 1980.