STATE BOARD OF OPTOMETRY
2450 DEL PASO ROAD, SUITE 105, SACRAMENTO, CA 95834
P (916) 575-7170 F (916) 575-7292 www.optometry .ca.gov

Continuing Education Course Approval Checklist

Title: Diabetic Retinopathy

Provider Name: Dr. Joseph Pruitt

☑Completed Application
Open to all Optometrists? ☑Yes ☐No
Maintain Record Agreement? ☑Yes ☐No

☑Correct Application Fee

☐Detailed Course Summary

☑Detailed Course Outline

☑PowerPoint and/or other Presentation Materials

☐Advertising (optional)

☑CV for EACH Course Instructor

☑License Verification for Each Course Instructor
Disciplinary History? ☐Yes ☑No

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1-3323	439594	439594	50

CONTINUING EDUCATION COURSE APPROVAL APPLICATION

$50 Mandatory Fee

Pursuant to California Code of Regulations (CCR) § 1536, the Board will approve continuing education (CE) courses after receiving the applicable fee, the requested information below and it has been determined that the course meets criteria specified in CCR § 1536(g).

In addition to the information requested below, please attach a copy of the course schedule, a detailed course outline and presentation materials (e.g., PowerPoint presentation). Applications must be submitted 45 days prior to the course presentation date.

Please type or print clearly.

Course Title	**Course Presentation Date**
Diabetic Retinopathy	09/01/2017

Course Provider Contact Information

Provider Name

Joseph (First) Pruitt (Last) Allan (Middle)

Provider Mailing Address

Street 11980 Mt Vernon Ave. **City** Grand Terrace **State** CA **Zip** 92313

Provider Email Address pruitt.joseph@gmail.com

Will the proposed course be open to all California licensed optometrists?	☑ YES ☐ NO
Do you agree to maintain and furnish to the Board and/or attending licensee such records of course content and attendance as the Board requires, for a period of at least three years from the date of course presentation?	☑ YES ☐ NO

Course Instructor Information

Please provide the information below and attach the curriculum vitae for each instructor or lecturer involved in the course. If there are more instructors in the course, please provide the requested information on a separate sheet of paper.

Instructor Name

Joseph (First) Pruitt (Last) Allan (Middle)

License Number 13429	**License Type** TLG
Phone Number (909) 721-7751	**Email Address** pruitt.joseph@gmail.com

I declare under penalty of perjury under the laws of the State of California that all the information submitted on this form and on any accompanying attachments submitted is true and correct.

Joseph
Signature of Course Provider

3/13/2017
Date

1 **Diabetic Retinopathy**

Joseph Pruitt, OD, MBA, FAAO

Riverside-San Bernardino County Indian Health, Inc.

2 **Statistics**

- Leading cause of blindness and low vision in ages 20-74 in the US
- 86% of individuals with type 1 diabetes and 40% of type 2 have some form of clinically evident retinopathy
- Accounts for 12% of all new cases of blindness every year
- Prevalence increases with the duration of the disease
  - 50% after 7 years and 90% after 17-25 years

3 **Retinopathy Risk**

4 **Retinopathy Risk**

5

Risk Factors for Retinopathy

- Long duration of diabetes
- Poor metabolic control
- Pregnancy
- Hypertension
- Renal disease
- Other:
  - Obesity
  - Hyperlipidemia
  - Smoking
  - Anemia

6 **Vision with Diabetic Retinopathy**

7 **Ocular Signs and Symptoms of Diabetes**

- Fluctuating vision
  - Secondary to fluctuating blood sugar
- Blurred vision
  - addition of diabetes meds (gradual onset)
  - Macular edema (gradual onset)
  - Diabetic optic neuropathy (sudden onset)
- Diplopia
  - CN III, IV, VI palsies
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  - Vitreous hemorrhage
  - Retinal detachment
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- Optic neuropathy
  - Edema to optic nerve
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      - Return in 1 month
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    - Unknown mechanism
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15 **Diabetic retinopathy Pathophysiology Overview**

Accumulation of sorbitol destroys pericytes
(supportive cell in capillary walls)

As the pericytes die, capillary endothelium becomes compromised
⇓
Vascular leakage of blood, lipid and protein.
⇓ ⇓
Retinal edema (exudates) Vascular Insufficiency
⇓
Capillary Non-Perfusion
⇓
Retinal Hypoxia (CWS)

⇓

Retinal, Optic Nerve and Iris Neovascularization

16

17

18 **Neovascularization**

19

20 **Diabetic Eye Exam**

- Visual acuity
- Extraocular muscle evaluation (CN palsies)
- Refraction (myopic shift or hyperopic shift)
- Slit lamp examination (check for NVI + Cataracts)
- Intraocular pressure (neovascular glc)
- Gonioscopy (check the angle for NV)

21 **Diabetic Eye Exam**

- Binocular indirect ophthalmoscopy (periphery and posterior pole)
- Stereoscopic indirect biomicroscopy
- Fundus Photography (document change)

If warranted:

- Fluorescein angiography (check for leakage)
- OCT (check edema or sub-retinal fluid)

22 **Ancillary testing:**
Fluorescein Angiography

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Fluorescein Angiography

- Fluorescein is injected into the antecubital vein
- Photos are taken at about 4 sec intervals.
- Shows the retinal capillaries
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- Provides a cross-sectional image of the retina by projecting a pair of near infrared light beams into the eye
- OCT measures the thickness of the retina, allowing for a quantitative approach to following diabetic macular edema
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27 **Before we get to the retina...**

- Cataracts are a major cause of decreased vision
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- Type 2 diabetes especially associated with Nuclear Sclerotic

28 **Stages of Diabetic Retinopathy**

29 **Mild NPDR**
(non-proliferative diabetic retinopathy)

- Signs
  - Microaneurysms (MA)
  - Dot/Blot hemorrhages
- Risks
  - 5% risk of progression to PDR (neovascularization) in 1 yr
  - 15% risk of progression to high risk PDR within 5 yrs
- Management
  - Optimize glycemic control
  - Annual follow up

30 **Moderate NPDR**

- Signs
  - Marked Hemorrhages/MA
  - Cotton wool spots
  - Venous beading
  - Exudate
- Risks
  - 12-27% risk of progression to PDR in 1 yr
  - 33% chance of developing *high risk* PDR within 5 years
- Management
  - Optimize glycemic control
  - 6-12 months follow up

31 **Severe NPDR**

- Signs
  - Marked hemes/ma in all 4 quadrants
  - Venous beading in 2 or more quadrants
  - IRMA (Intraretinal Microvascular Anomolies)
- Risks
  - 52% risk of PDR in 1 year
  - 60-70% chance of developing *high risk* PDR within 5 years
- Management
  - Optimize glycemic control
  - Follow up in 2-3 months
  - Consider Fluorescein Angiogram to r/o subtle NV
  - Trial PRP...?

32 **Mild NPDR**

33

34 **IRMA and Venous Beading**

35 **Venous beading via FA**

36 **Cotton wool spots**

37

38

39 **Efficacy of tight glycemic control**

- Intensive treatment to maintain blood glucose concentrations close to normal range has been shown to decrease the risk of the development of diabetic retinopathy by as much of 76%.

40 **Efficacy of tight glycemic control**

Diabetic Control and Complications Trial (DCCT)

- To determine the effect of tight blood sugar control on retinopathy in persons with type 1 diabetes

- Progression of retinopathy was reduced by 60% with the intensive control group versus standard treatment

- Additionally there was a 29% reduction in the risk of getting macular edema

41 **Efficacy of Glycemic Control**

U.K. Prospective Diabetes Study (UKPDS)

- Prospective study to determine the effect of tight blood sugar control on retinopathy in persons with Type 2 diabetes
-
- Every 1 point decrease in HgA1c = 35% risk reduction for retinopathy
-
- 25% Overall reduction in the risk for microvascular endpoints including the need for photocoagulation

- *Rapid control of long-standing poor control may accelerate progression of established retinopathy over the 1st year*

42 **Goals for glycemic control**

- Recommendation is glucose levels as near to normal as possible
-

43 **Goals for glycemic control**

- Now
  - For a person not diagnosed with diabetes
  -
  -
  -
  -
  - For a person with diabetes
  -
  -

44 **Blood pressure control**

- Decreases the risk and/or the progression of diabetic retinopathy and macular edema
-

- Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR) showed an association between progression of retinopathy and a higher diastolic reading and macular edema
-
- UKPDS demonstrated that tight control of blood pressure (<150/85) reduced the risk for photocoagulation and progression of retinopathy by 37% and 34% respectively
  - Additionally there was a 47% reduction in vision changes

45 **Serum lipid control**

- Elevated serum lipid levels affect the severity of retinopathy by increasing the presence of hard exudates and thereby increasing the risk of visual loss (ETDRS 22 and WESDR VIII)
-
- Patients with elevated total serum cholesterol levels or serum low-density lipoprotein (LDL) cholesterol levels at baseline were twice as likely to have retinal hard exudates as patients with normal levels
-
- Severe hard exudates are the strongest risk factor for subretinal fibrosis and permanent vision loss
-
- Risk for progression of retinopathy (total cholesterol)
  - 23% increased risk if >200 mg/dl
  - 50% increased risk if >240 mg/dl

46 **Proliferative Diabetic Retinopathy (PDR)**

- Signs
  - Hallmark is presence of retinal neovascularization (NVD/NVE)
  - New vessels are fragile and easily ruptured
  - Vessels grow into the vitreous leading to vitreous hemorrhages
- Risk
  - 75% risk of progression to high risk PDR within 5 yrs
- Management
  - Obtain retina consult within 2 weeks
  - Consider PRP (Panretinal Photocoagulation)
-

47 **Proliferative Diabetic Retinopathy (PDR)**

- Affects 5-10% of persons with diabetes
-
- Type 1 at increased risk compared to Type 2 (60% after 30 years)
-
- NVD (disc), NVI (iris aka: rubeosis) or NVE (elsewhere), NVA (angle)

48 **Neovascularization of the Disc (NVD)**

49 **Neovascularization of the Disc (NVD)**

50 **Neovascularization Elsewhere (NVE)**

51 **Neovascularization Elsewhere (NVE)**

52 **NVD and NVE via FA**

53 **Neovascularization with a Large Pre-retinal Hemorrhage**

54 **Vitreous Hemorrhage**

55 **Neovascularization of the Iris (rubeosis)**

56 **The treatment: Laser Panretinal Photocoagulation (PRP)**

- Goal is to eradicate neovascularization because of its potentially serious complications (Neovascular Glaucoma, Retinal Detachment)

- Mechanism: not well understood, destroy ischemic retina to get rid of neovascular stimulus

- Initial tx is 1200-2400 spots

- Median spot size (350-500 microns)

- f/u 4 to 6 weeks

- Complications: decreased peripheral vision & night vision

57 **Diabetic Retinopathy Study**
- NIH sponsored clinical (1971-1975)
-
- PRP reduced the risk of severe vision loss by 50%

- Defined high-risk proliferative diabetic retinopathy

58 **Pan-Retinal Photocoagulation**

59 **Post PRP**

60 **Neovascular Glaucoma**
- Mechanism:
  - iris blood vessels grow into the angle, where the drainage system of the eye is.
  - Outflow of fluid is impeded and intraocular pressure increases, leading to glaucoma.
- Management: Difficult!!!
  - PRP (regress NVI)
  - Glaucoma meds (control IOP)
  - Trabeculectomy: surgery to create new channel of fluid flow directly out of the eye
  - Enucleation for blind eye with intractable pain not uncommon

61 **Neovascular Glaucoma**

62 **Retinal Detachment**

New blood vessels can cause scar tissue to develop
⇓
When it shrinks, it can pull the retina away from the back of the eye
⇓
Retinal detachment
⇓
Tx: scleral buckle, cryo

63 **Indications for Vitreoretinal Surgery**

64 **Indications for Vitreoretinal Surgery**

Dense, persistent premacular hemorrhage

65 **Indications for Vitreoretinal Surgery**

Progressive proliferation despite laser therapy

66 **Indications for Vitreoretinal Surgery**

Retinal detachment involving macula

67 **Diabetic Maculopathy**

Three types
- Focal edema
  - Localized edema near macula
  -

- Diffuse edema
  - large area of edema in macula
  -
- Macular ischemia
  - capillary non-profusion

68 **Circumscribed retinal thickening and associated with circinate hard exudates**

69 **Diabetic maculopathy with OCT**

70 **Diffuse Diabetic Maculopathy**

71 **Ischemic Diabetic Maculopathy**

72 **Early Treatment of Diabetic Retinopathy Study**

- NIH sponsored clinical trial (1979-1990)
-
- Studied moderate-severe NPDR and mild PDR with vision 20/40 or better
-
- Defined CSME
-
- Focal or grid photocoagulation of CSME substantially reduces the risk of moderate visual loss by clearing retinal thickening
-
- PRP causes a significant reduction in severe vision loss in patients with early treatment
-

73 **Clinically Significant Macular Edema (CSME)**

Hard exudates within 500 μm of center of fovea with adjacent thickening which may be outside 500 μm limit

74 **Clinically Significant Macular Edema (CSME)**

75 **Clinically Significant Macular Edema (CSME)**

- Focal Macula Laser (FML)
  - 50-200 micron spot size
  - 100-500 mW power
  - 0.1 sec duration
- Grid laser – diffuse treatment
- f/u 3-4 months
- Complications– paracentral scotomas, subretinal neovascular membrane, and misplaced laser spot

76 **CSME**

77 **Laser treatment of DME**

78 **Paradigm Shift**

- Treatment of DME hinges upon anti-VEGF treatments
  - Vaso-endothelial growth factor
- Currently, 3 agents FDA approved for DME:
  - Ranibizumab (Lucentis)
  - Afibercept (Eylea)
  - Bevacizumab (Avastin)

79 **Take home message**

- Regular eye exams are an important part of care for your diabetic patient, at least in 1 year intervals.

- If blood sugar control is out of control, refractions can be out of control!
- Studies have shown that a coexistence of poorly controlled hypertension and hyperlipidemia can cause progression and worsening of diabetic retinopathy

Diabetic Retinopathy

Joseph Pruitt, OD, MBA, FAAO

Riverside-San Bernardino County
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Retinopathy Risk

Type 1 Diabetes

Diabetes Duration	Risk of Retinopathy
10 years	27%
Greater than 10 years	71-90%
Greater than 15 years	78-97%
Greater than 20 years	*50-60% will become proliferative

Retinopathy Risk

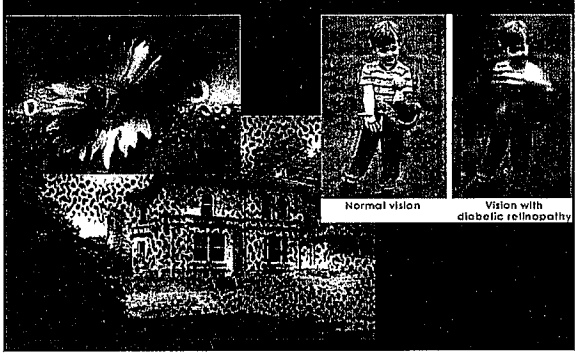
Type 2 Diabetes

Diabetes Duration	Risk of Retinopathy
At diagnosis	20-39%
Greater than 4 years	*4% progress to proliferative
Greater than 15 years	60-80% *up to 20% progress to proliferative

Risk Factors for Retinopathy

- Long duration of diabetes
- Poor metabolic control
- Pregnancy
- Hypertension
- Renal disease
- Other:
  - Obesity
  - Hyperlipidemia
  - Smoking
  - Anemia

Vision with Diabetic Retinopathy



Ocular Signs and Symptoms of Diabetes

- Fluctuating vision
  - Secondary to fluctuating blood sugar
- Blurred vision
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Non-retinal ocular sequelae

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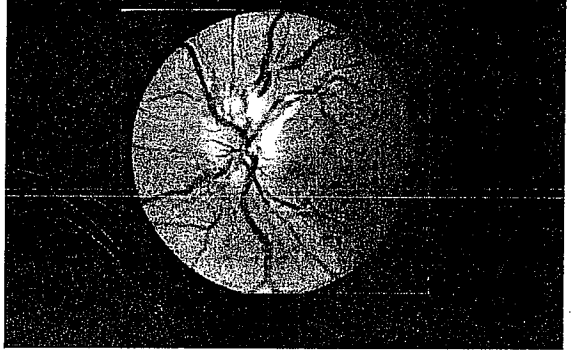
Non-retinal ocular sequelae



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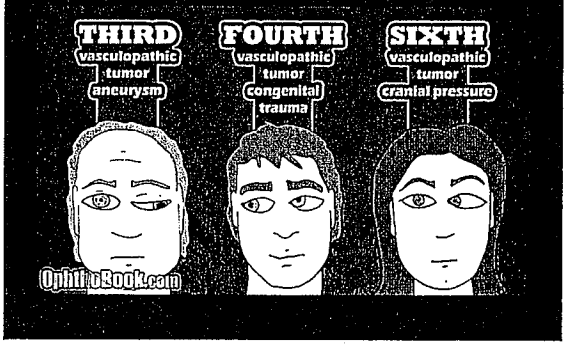

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Non-retinal ocular sequelae

Cortical

PSC

Nuclear Sclerotic

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Vascular Insufficiency

⇩

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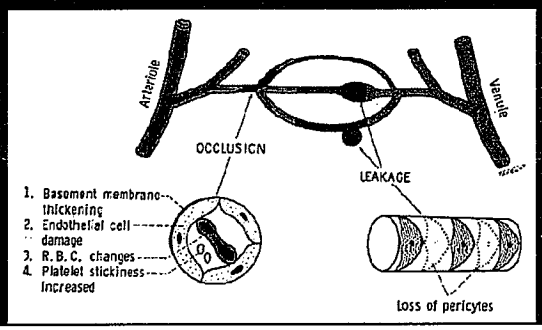
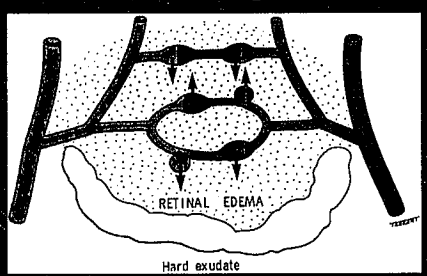
Retinal, Optic Nerve and Iris Neovascularization

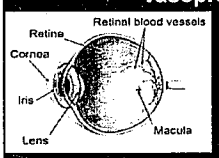
Pathogenesis of Diabetic Retinopathy



Consequences of Chronic Leakage



Neovascularization



Vasoproliferative factors (i.e. VEGF) then are formed and released

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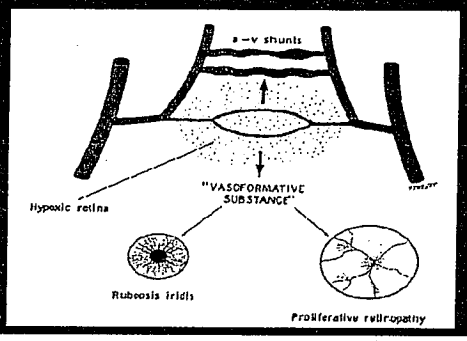
Retinal neovascularization

⇩ ⇩

Retinal Detachment

Neovascular Glaucoma

Consequences of Retinal Ischemia



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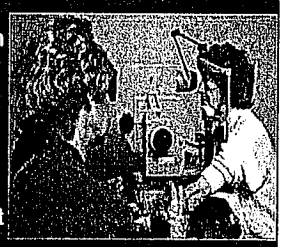

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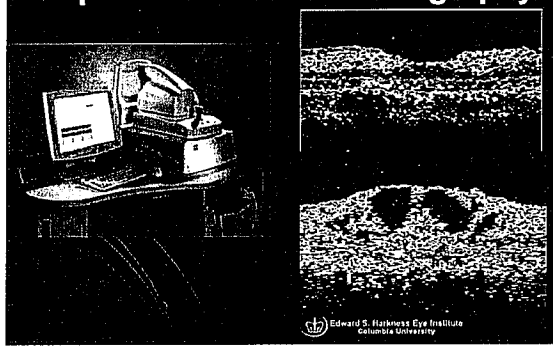

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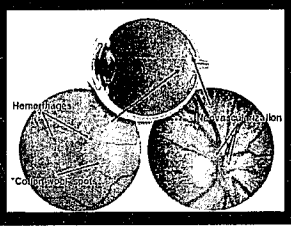
Stages of Diabetic Retinopathy



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(non-proliferative diabetic retinopathy)

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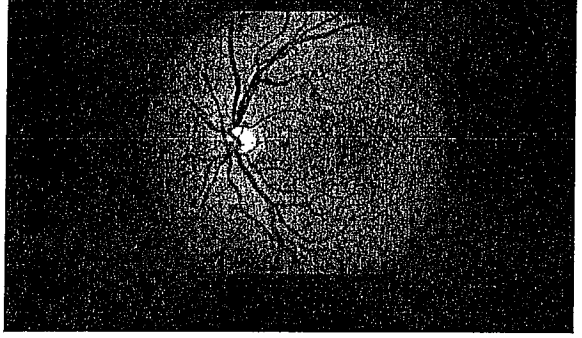
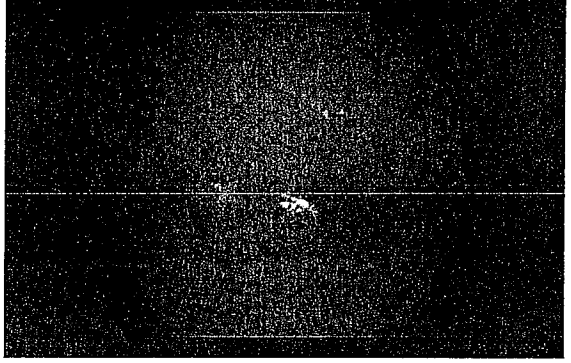
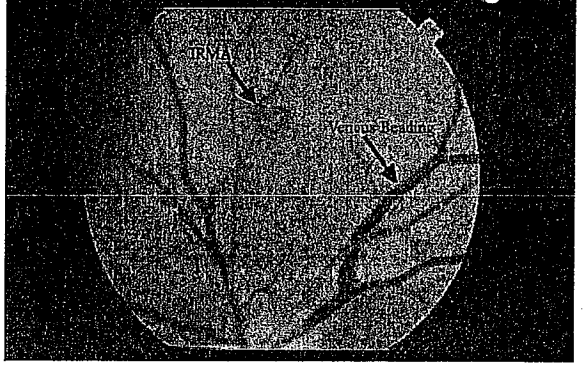


Moderate NPDR

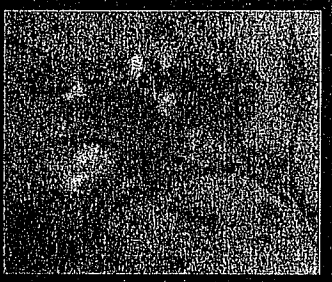


IRMA and Venous Beading

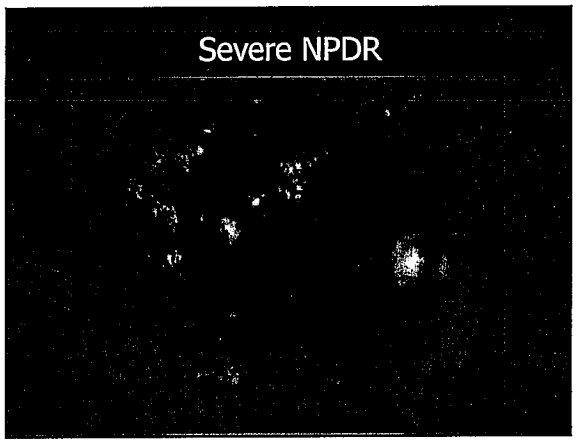


Venous beading via FA

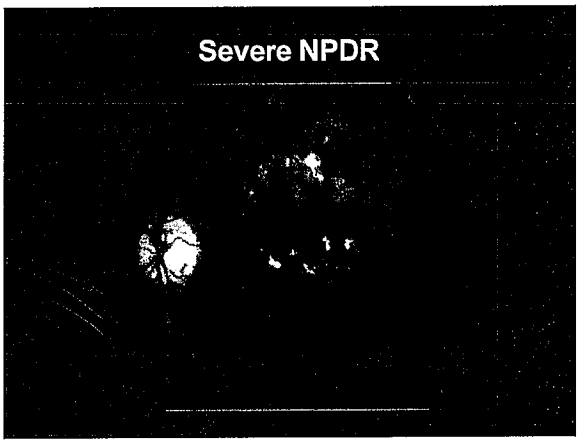
Cotton wool spots



Severe NPDR



Severe NPDR



Efficacy of tight glycemic control

- Intensive treatment to maintain blood glucose concentrations close to normal range has been shown to decrease the risk of the development of diabetic retinopathy by as much of **76%**.

Efficacy of tight glycemic control

Diabetic Control and Complications Trial (DCCT)

- To determine the effect of tight blood sugar control on retinopathy in persons with type 1 diabetes
- Progression of retinopathy was reduced by 60% with the intensive control group versus standard treatment
- Additionally there was a 29% reduction in the risk of getting macular edema

Efficacy of Glycemic Control

U.K. Prospective Diabetes Study (UKPDS)

- Prospective study to determine the effect of tight blood sugar control on retinopathy in persons with Type 2 diabetes
- Every 1 point decrease in HgA1c = 35% risk reduction for retinopathy
- 25% Overall reduction in the risk for microvascular endpoints including the need for photocoagulation
- *Rapid control of long-standing poor control may accelerate progression of established retinopathy over the 1st year*

Goals for glycemic control

- Recommendation is glucose levels as near to normal as possible

It was not too long ago…

Normal range	4-6%
Ideal control	Less than 7%
Acceptable	Less than 8%

Goals for glycemic control

- Now
  - For a person not diagnosed with diabetes

Normal	4.0-5.6%
Pre-diabetes/Increased Risk	5.7-6.4%
(+) for Diabetes	>6.5%

  - For a person with diabetes

Goal	<7.0%

Blood pressure control

- Decreases the risk and/or the progression of diabetic retinopathy and macular edema
- Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR) showed an association between progression of retinopathy and a higher diastolic reading and macular edema
- UKPDS demonstrated that tight control of blood pressure (<150/85) reduced the risk for photocoagulation and progression of retinopathy by 37% and 34% respectively
  - Additionally there was a 47% reduction in vision changes

Serum lipid control

- Elevated serum lipid levels affect the severity of retinopathy by increasing the presence of hard exudates and thereby increasing the risk of visual loss (ETDRS 22 and WESDR VIII)
- Patients with elevated total serum cholesterol levels or serum low-density lipoprotein (LDL) cholesterol levels at baseline were twice as likely to have retinal hard exudates as patients with normal levels
- Severe hard exudates are the strongest risk factor for subretinal fibrosis and permanent vision loss
- Risk for progression of retinopathy (total cholesterol)
  - 23% increased risk if >200 mg/dl
  - 50% increased risk if >240 mg/dl

Proliferative Diabetic Retinopathy (PDR)

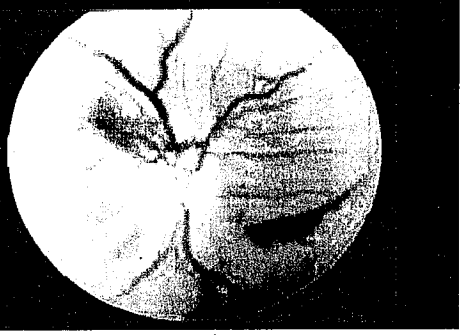
- Signs
  - Hallmark is presence of retinal neovascularization (NVD/NVE)
  - New vessels are fragile and easily ruptured
  - Vessels grow into the vitreous leading to vitreous hemorrhages
- Risk
  - 75% risk of progression to high risk PDR within 5 yrs
- Management
  - Obtain retina consult within 2 weeks
  - Consider PRP (Panretinal Photocoagulation)

Proliferative Diabetic Retinopathy (PDR)

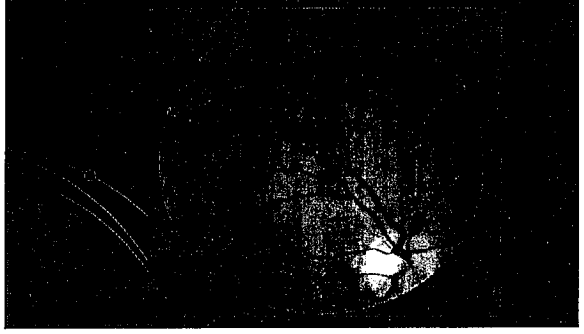
- Affects 5-10% of persons with diabetes
- Type 1 at increased risk compared to Type 2 (60% after 30 years)
- NVD (disc), NVI (iris aka: rubeosis) or NVE (elsewhere), NVA (angle)

Neovascularization of the Disc (NVD)

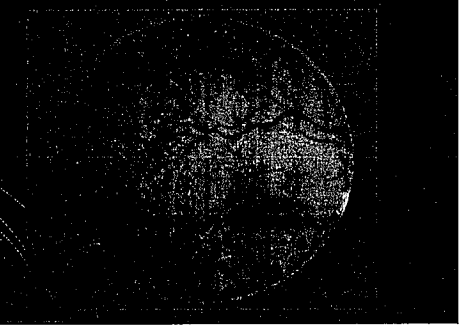
Neovascularization of the Disc (NVD)



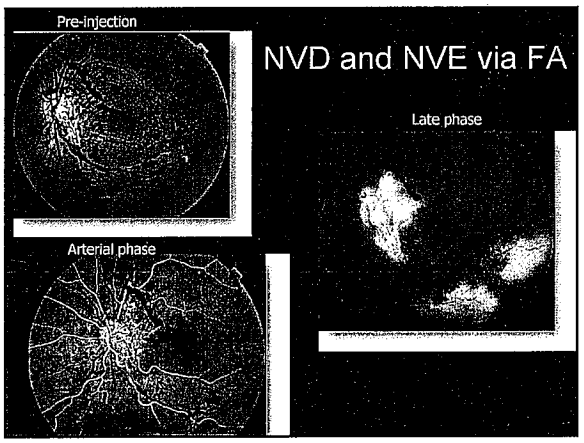
Neovascularization Elsewhere (NVE)



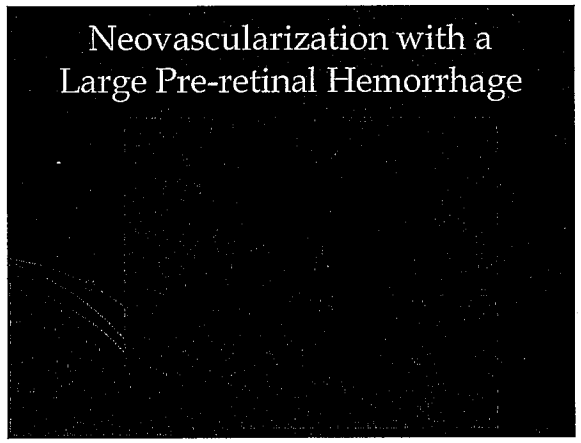
Neovascularization Elsewhere (NVE)



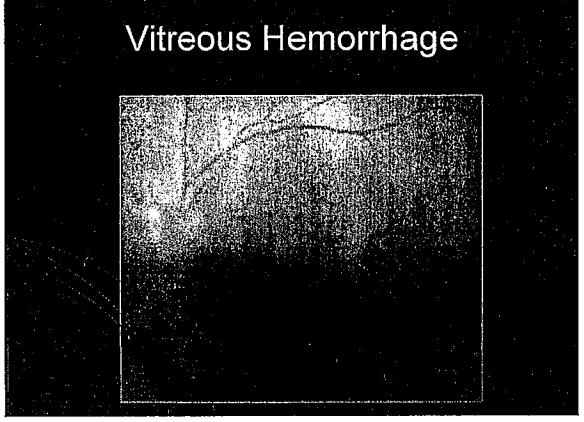
NVD and NVE via FA



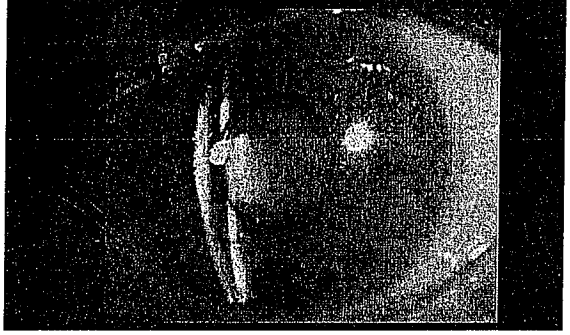
Neovascularization with a Large Pre-retinal Hemorrhage



Vitreous Hemorrhage



Neovascularization of the Iris (rubeosis)



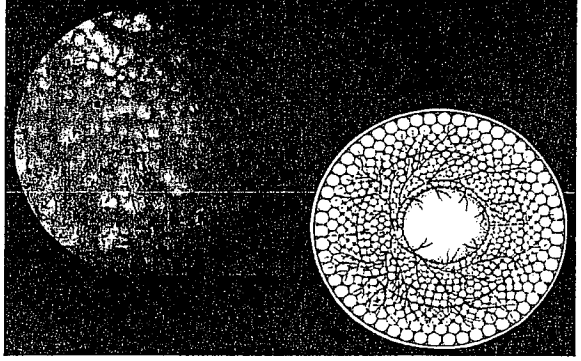
The treatment: Laser Panretinal Photocoagulation (PRP)

- Goal is to eradicate neovascularization because of its potentially serious complications (Neovascular Glaucoma, Retinal Detachment)
- Mechanism: not well understood, destroy ischemic retina to get rid of neovascular stimulus
- Initial tx is 1200-2400 spots
- Median spot size (350-500 microns)
- f/u 4 to 6 weeks
- Complications: decreased peripheral vision & night vision

Diabetic Retinopathy Study

- NIH sponsored clinical (1971-1975)
- PRP reduced the risk of severe vision loss by 50%
- Defined high-risk proliferative diabetic retinopathy

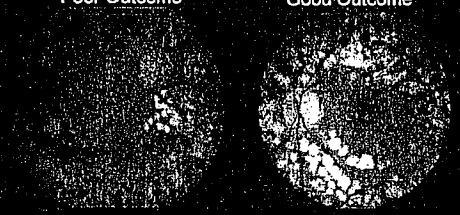
Pan-Retinal Photocoagulation



Post PRP

Poor Outcome

Good Outcome



Persistent neovascularization
Hemorrhage
Re-treatment required

Regression of neovascularization
Residual ghost vessels or fibrous tissue

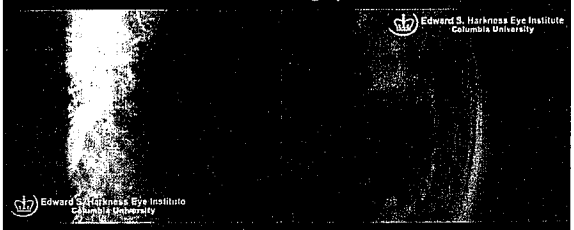
Neovascular Glaucoma

- Mechanism:
  - iris blood vessels grow into the angle, where the drainage system of the eye is.
  - Outflow of fluid is impeded and intraocular pressure increases, leading to glaucoma.
- Management: Difficult!!!
  - PRP (regress NVI)
  - Glaucoma meds (control IOP)
  - Trabeculectomy: surgery to create new channel of fluid flow directly out of the eye
  - Enucleation for blind eye with intractable pain not uncommon

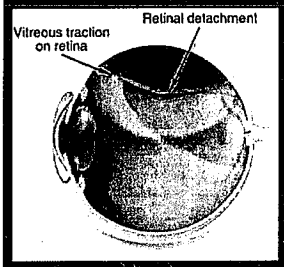
Neovascular Glaucoma

Early NVI

NVA (Neovascularization of the Angle)



Retinal Detachment



New blood vessels can cause scar tissue to develop

⇓

When it shrinks, it can pull the retina away from the back of the eye

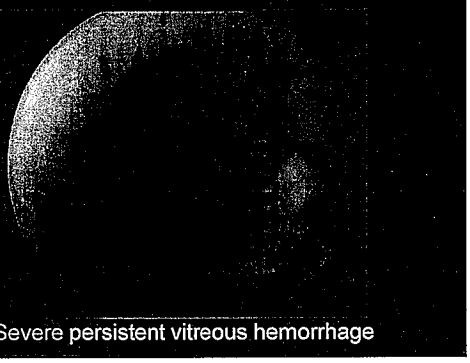
⇓

Retinal detachment

⇓

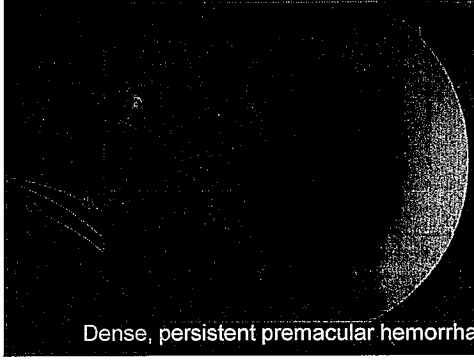
Tx: scleral buckle, cryo

Indications for Vitreoretinal Surgery



Severe persistent vitreous hemorrhage

Indications for Vitreoretinal Surgery

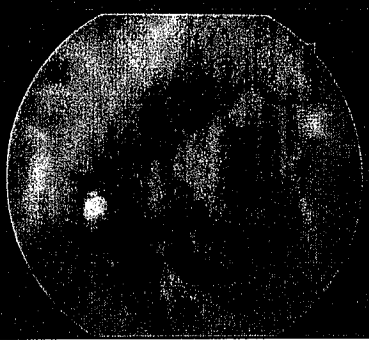


Dense, persistent premacular hemorrhage

Indications for Vitreoretinal Surgery

Progressive proliferation despite laser therapy

Indications for Vitreoretinal Surgery



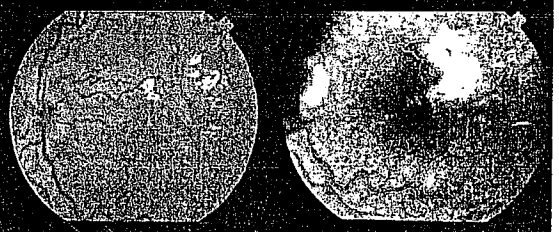
Retinal detachment involving macula

Diabetic Maculopathy

Three types

- Focal edema
  - Localized edema near macula
- Diffuse edema
  - large area of edema in macula
- Macular ischemia
  - capillary non-profusion

Focal Diabetic Maculopathy



Circumscribed retinal thickening and associated with circinate hard exudates

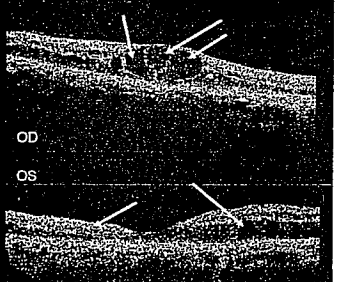
Focal leakage on FA
Tx: Focal photocoagulation

Diabetic maculopathy with OCT

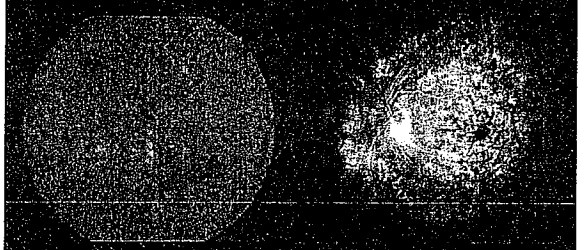
64 year old African American male. History of diabetes for 16-17 years.

OD: Visual acuity was 20/60

OS: Visual acuity was 20/20



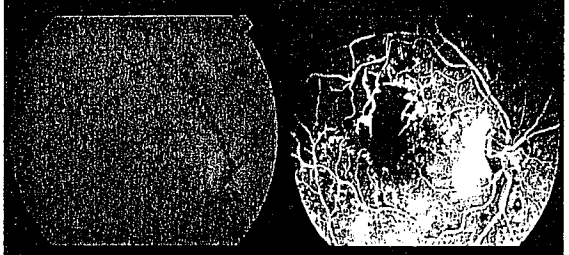
Diffuse Diabetic Maculopathy



Diffuse retinal thickening
Frequent CME
Variable impairment of VA

Generalized leakage on FA
Tx: grid photocoagulation

Ischemic Diabetic Maculopathy



Macula appears relatively normal despite poor vision

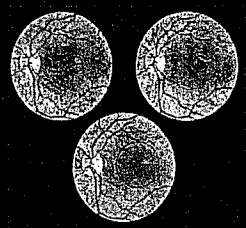
Capillary non-perfusion on FA. No Tx

Early Treatment of Diabetic Retinopathy Study

- NIH sponsored clinical trial (1979-1990)
- Studied moderate-severe NPDR and mild PDR with vision 20/40 or better
- Defined CSME
- Focal or grid photocoagulation of CSME substantially reduces the risk of moderate visual loss by clearing retinal thickening
- PRP causes a significant reduction in severe vision loss in patients with early treatment

Clinically Significant Macular Edema (CSME)

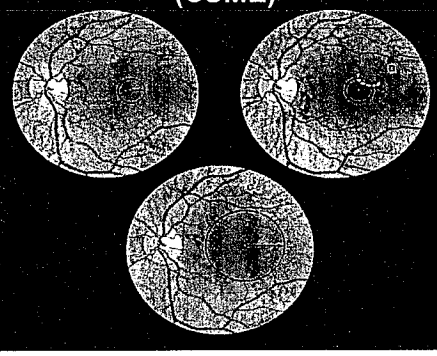
Retinal thickening within 500 μm of center of fovea



Hard exudates within 500 μm of center of fovea with adjacent thickening which may be outside 500 μm limit

Retinal thickening one disc area or larger any part of which is within one disc diameter (1500 μm) of the center of the retina

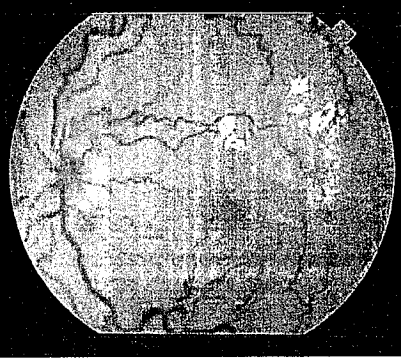
Clinically Significant Macular Edema (CSME)



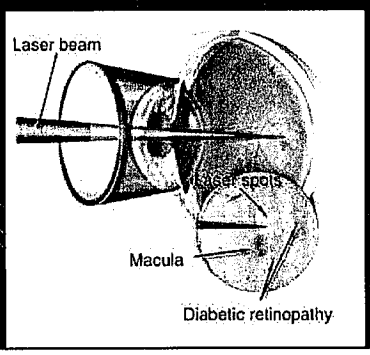
Clinically Significant Macular Edema (CSME)

- Focal Macula Laser (FML)
  - 50-200 micron spot size
  - 100-500 mW power
  - 0.1 sec duration
- Grid laser – diffuse treatment
- f/u 3-4 months
- Complications– paracentral scotomas, subretinal neovascular membrane, and misplaced laser spot

CSME



Laser treatment of DME



Paradigm Shift

- Treatment of DME hinges upon anti-VEGF treatments
  - Vaso-endothelial growth factor
- Currently, 3 agents FDA approved for DME:
  - Ranibizumab (Lucentis)
  - Afibercept (Eylea)
  - Bevacizumab (Avastin)

Take home message

- Regular eye exams are an important part of care for your diabetic patient, at least in 1 year intervals.
- If blood sugar control is out of control, refractions can be out of control!
- Studies have shown that a coexistence of poorly controlled hypertension and hyperlipidemia can cause progression and worsening of diabetic retinopathy

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Cell: (909) 721-7751
pruitt.joseph@gmail.com

Joseph A. Pruitt, O.D., M.B.A., FAAO

Objective:

Education:

Nova Southeastern University, Fort Lauderdale-Davie, Florida — 2008-2011
Master of Business Administration, 2011

West Los Angeles Veteran Affairs Healthcare Center, Los Angeles, California — 2007-2008
Residency Certificate, Geriatric/Primary Care, 2008

Illinois College of Optometry, Chicago, Illinois — 2003-2007
Doctor of Optometry, 2007

California State Polytechnic University, Pomona, California — 2000-2003
Bachelor of Science, Biology, 2003

University of Memphis, Memphis, Tennessee — 1999-2000
Major in Biology

Licenses:

Tennessee #2753 — Date of Issue: July 10, 2007
- Active
- Injectible Certification
- Therapeutic Certification

California #13429T — Date of Issue: Sept. 28, 2007
- Active
- Therapeutic and Pharmaceutical Agent + Lacrimal Irrigation and Dilation + Glaucoma (TLG) Certified

Georgia #OPT002454 — Date of Issue: June 12, 2008
- Active
- Diagnostic and Therapeutic Pharmaceutical Agent Certified

Minnesota #3130 — Date of Issue: June 17, 2008
- Active
- Diagnostic Pharmaceutical Agent (DPA) Certified
- Therapeutic Pharmaceutical Agent (TPA) Certified

Board Certification:

American Board of Certification in Medical Optometry — Date of recertification: Feb 2018
- Board certified

Certifications:

Drug Enforcement Agency (DEA) Certified — Date of Expiration: Mar 2020

Cardiopulmonary Resuscitation (CPR) & Automated External Defibrillator (AED) — Recommended Renewal: Mar 2017

Bausch & Lomb Overnight Orthokeratology — Date of Issue/Completion: April 6, 2006
- Certification Number: 20060406002

Paragon Corneal Refractive Therapy (CRT) — Date of Issue/Completion: Dec. 28, 2007
- Certification Number: 161000

Advance Competence in Medical Optometry (ACMO) — Date Taken: June 13, 2008
- Administered by the National Board of Examiners in Optometry (NBEO)
- Examination only made available to candidates meeting specific clinical experience requirements/pre-requisites
- Passed examination

Employment:

Riverside San Bernardino County Indian Health, Inc (RSBCIHI) — Oct. 2014- present
- Director of Eye Care
- Staff Optometrist

Riverside San Bernardino County Indian Health, Inc (RSBCIHI) — July 2014- Oct. 2014
- Staff Optometrist

Minneapolis Veteran Affairs Health Care System — Nov 2008- June 2014
- Low Vision/Staff Optometrist
- Optometric Residency Coordinator
  - Spearheaded and implemented program
- Student Externship Coordinator
  - Spearheaded and implemented program

Wal-Mart Vision Center (Red Wing & Rochester, MN) — Jul 2008- Nov 2008
- Associate Optometrist

EyExam of California — Oct 2007- June 2008
- On-call/Fill-in Optometrist

Faculty Appointments:

Western University of Health Science / College of Optometry, Pomona, California — Jan 2015 - present
- Clinical Assistant Professor of Optometry
- RSBCIHI Externship Site Program Director
  - As part of being RSBCIHI Eye Care Director

University of the Incarnate Word-Rosenberg School of Optometry, San Antonio, Texas — May 2012- June 2014
- Clinical Assistant Professor
- Minneapolis VA HCS Externship Site Program Director

Midwestern University-Arizona College of Optometry, Glendale, Arizona — May 2012- June 2014
- Adjunct Clinical Assistant Professor
- Minneapolis VA HCS Externship Site Program Director

Southern College of Optometry, Memphis, Tennessee — Dec 2010- June 2014
- Adjunct Faculty
- Minneapolis VA HCS Externship Site Program Director

University of Missouri, St. Louis College of Optometry, St. Louis, Missouri — Jul 2009- June 2014
- Adjunct Assistant Professor
- Minneapolis VA HCS Externship Site Program Director

Experience:

Riverside-San Bernardino Indian Health, Inc — Oct 2014 - present
- Director of Eye Care
  - Oversee all organizational Eye Care activities

- Staff Optometrist

Riverside-San Bernardino Indian Health, Inc — Jul 2014 – Oct 2014

- Staff Optometrist

Minneapolis Veteran Affairs Medical Center — Nov 2008- June 2014

- Staff Optometrist
  - Primary Eye Care
  - Low Vision
    - Sole low vision eye care provider
  - Polytrauma/Traumatic Brain Injury (TBI) Ocular Health & Vision Assessments

- VISN 23 Low Vision Continuum of Care Conference (May 2009)
  - Faculty
  - Planning committee

- Established Associated Health Education Affiliation Agreement with University of Missouri, St. Louis College of Optometry, Ferris State University Michigan College of Optometry, & Southern College of Optometry for the optometric externship program
  - Externship program director

- Established Associated Health Education Affiliation Agreement with the Illinois College of Optometry for the optometry residency program
  - Residency in Primary Care/Brain Injury and Vision Rehabilitation
  - Residency program director
    - Designed the program's curriculum
    - Secured all necessary approvals and funding
    - After the initial site visit, program received full ACOE accreditation

Wal-Mart Vision Center (Red Wing & Rochester, MN) — Jul 2008- Nov 2008

- Associate Optometrist

Residency:

West Los Angeles Veteran Affairs Healthcare Center — Jul 2007- June 2008

- Geriatrics/Primary Care
  - Primary Care including Diabetic exams
  - Low Vision evaluations/exams
  - Nursing home/in-patient exams
  - Medically justified specialty contact lenses exams/fittings
  - Lecture Internal Medicine's and Endocrinology's Residents & Interns on Diabetic Retinopathy
    - Given during Chief Resident rotation
  - Precept Southern California College of Optometry's interns

Optometric Externships:

Atlantic Eye Institute, Jacksonville Beach, FL — Feb-May 2007

- OD/MD private practice with an emphasis on Contact Lenses and Primary Care
- Observed multiple surgical procedures:
  - Cataract Extraction
  - Blepharoplasty
  - Strabismus recession and resection

Memphis Veterans Affairs Medical Center (VAMC), Memphis, TN — Nov 2006-Feb 2007

- Emphasis on Primary Care
- Assisted in direct care in a high patient volume

medical optometric eye clinic
- Assisted in optometric injections and fluorescence angiographies procedures

Illinois Eye Institute (IEI), Chicago, IL — Aug-Nov 2006
- Emphasis on Pediatrics/Binocular Vision, Advance Care, and Low Vision
- Performed comprehensive eye exams on pediatric patients (infants-11yrs of age)
- Performed comprehensive eye exams on "at risk/2nd chance" children one day a week at Maryville Academy
- Constructed, tailored and performed successful binocular vision/vision therapy treatments to 4 children over a 10 week period
- Assisted in the treatment of advance glaucoma with attending University of Chicago ophthalmologist
- Performed problem specific examinations one day per week in IEI's Emergency/Urgent Care/Walk-in clinic
- Performed full Low Vision examinations including Low Vision device selection and training

Body of Christ Optometry Clinic, Tegucigalpa, Honduras — May-Aug 2006
- Emphasis on Primary and Advance Care
- Performed full-scope optometric care in a high patient volume medical clinic geared towards the underprivileged
- Also worked closely with a local ophthalmologist
  - Observed and assisted in Cataract Extraction and Incision and Curettage procedures
  - Provided pre and post-surgical care

Primary Care Clinical Education
Illinois Eye Institute, Chicago, IL — Aug 2005-May 2006

Volunteer Optometric Assistant
Body of Christ Optometry Clinic, Tegucigalpa, Honduras — Jun-Aug 2004
- Assisted staff optometrist in direct patient care in the clinic and multiple remote satellite outreach locations

Professional Affiliations/Memberships:
- Accreditation Council on Optometric Education
  - Consultant, 2014-present
- American Academy of Optometry (AAO)
  - Fellow; Class of 2009
- American Optometric Association (AOA)
- Armed Forces Optometric Society (AFOS)
- European Academy of Optometry and Optics (EAOO)
  - Candidate for Fellowship
- Fellowship of Christian Optometrists (FCO)
- Minneapolis VAMC Medical Staff Association
  - Steering Committee, member 2010-2014
- National Association of Veteran Affairs Optometrists (NAVAO)
  - Newsletter Committee, member 2010-2014
- National Optometric Association (NOA)
  - Minnesota's NOA State Representative 2010-2012
  - National Optometric Student Association (NOSA)
    - NOSA National Vice-President: 2006-2007
    - NOSA-ICO President: 2005-2006
    - NOSA-ICO Vice-President: 2004-2005

- Volunteer Optometric Service to Humanity (VOSH)
- Journal of Rehabilitation Research and Development
  - Peer Reviewer, 2013-2014

Activities:

- VOSH Medical Mission Trip, Bamenda, Cameroon (May 2010)
- Mayo Medical School/Brighter Tomorrow's Winter Warmth Festival (Jan 2009 & Jan 2010)
  - Fun day of activities for children battling cancer and their families
  - Volunteer
- Veteran Affairs Disaster Emergency Medical Personnel System (DEMPS)
  - Volunteer (Aug 2009-present)
- FCO Optometry Mission Trip, Port Au Prince, Haiti (Feb 2007)
- SVOSH Medical Mission Trip, Addis Addaba, Ethiopia (Mar-Apr 2006)
- FCO Optometry Mission Trip, Tegucigalpa, Honduras (Apr 2003 & Nov 2004)

Honors/Rewards:

- Recognition of Excellence in Teaching as Clinical Assistant Professor, Western University Health Sciences/College of Optometry (2015-2016 Academic Year)
- Nomination for Medical Staff Clinical Excellence Award (2012 & 2013)
- Recognition for Outstanding Dedication and Service as Adjunct Assistant Professor, University of Missouri – St. Louis (2010-2011 Academic Year)
- Journal of the American Optometric Association: Optometry's Eagle Award (Nov 2010)
- Certificate of Appreciation (July 2009)
  - Department of Veterans Affairs – VISN 23
    - Awarded for participation in VISN 23 Blind and Low Vision Continuum of Care Conference
- Recognition for Clinical Excellence (May 2007)
- Derald Taylor Low Vision Award (May 2007)
- Clinical Dean's List (summer 2005; summer & fall 2006, winter & spring 2007)
- Academic Dean's List (fall 2004)
- Wildermuth Leadership Award/Scholarship (Aug 2006)
- Vistakon Acuvue Eye Health Advisor Citizenship Scholarship (Jan 2006)
- NOSA Service Award/Scholarship (Aug 2004)

Publications:

Pruitt JA. The Management of Homonymous Hemianopsia Secondary to Hemispheric Ischemic Cerebral Vascular Accident. Accepted for publication by Review Optometry (July 2010)

Rittenbach TL, Pruitt JA. A Roundup of Recently Approved Ophthalmic Drugs (and their Use in Practice.) Rev Optom. 2014. 151(2):22-28.

Pruitt JA. Management strategies for patients with AION. Rev Optom. 2011. 148(6):57-65.

Pruitt JA. Neuro-Optometric Rehabilitation Association Program Summary. Optimum VA: The Official Newsletter of the National Association of VA Optometrists Summer 2010.

Pruitt JA, Ilsen P. On the frontline: What an optometrist needs to know about myasthenia gravis. Optometry 81(9): 454-460.

Pruitt JA, Sokol T, Maino D. Fragile X Syndrome and the Fragile X-associated Tremor/Ataxia Syndrome. Eye Care Review: Ophthalmology, Optometry, Opticianry 4(2): 17-23

Posters/Presentations

Pruitt JA. The Curious Case of the Functionally Legally Blind Patient with 20/25 (6/7.5) Visual Acuity. *Accepted into American Optometric Association Annual Meeting: Optometry's Meeting (2012) Poster Session.*

Pruitt JA, Prussing N. Successfully Treated Horizontal Diplopia Returns with Subsequent Traumatic Brain Injury. *Accepted into American Optometric Association Annual Meeting: Optometry's Meeting (2012) Poster Session.*

Pruitt JA, Prussing N. The Curious Case of the Functionally Legally Blind Patient with 20/25 (6/7.5) Visual Acuity. European Academy of Optometry and Optics Annual Meeting (2012) Poster Session.

Pruitt JA, Prussing N. Successfully Treated Horizontal Diplopia Returns with Subsequent Traumatic Brain Injury. European Academy of Optometry and Optics Annual Meeting (2012) Case Presentation Session.

Pruitt JA, Prussing N. Traumatic Brain Injury Resulting in Horizontal Diplopia Resolved 5 Years Later with 12 Weeks of Vision Therapy. Minnesota Optometric Association Annual Meeting (2012) Poster Session.

Pruitt JA, Wiley LM. Overcoming Mental Barriers in Visual Rehabilitation. American Optometric Association Annual Meeting: Optometry's Meeting (2011) Poster Session.

Pruitt JA, Prussing N. Traumatic Brain Injury Resulting in Horizontal Diplopia Resolved 5 Years Later with 12 Weeks of Vision Therapy. European Academy of Optometry and Optics Annual Meeting (2011) Poster Session.

Pruitt JA. Overcoming Mental Barriers in Visual Rehabilitation. European Academy of Optometry and Optics Annual Meeting (2011) Case Presentation Session.

Pruitt JA, Wiley LM. Overcoming Mental Barriers in Visual Rehabilitation. Minnesota Optometric Association Annual Meeting's (2011) Poster Session

Pruitt JA, Ilsen P, Yeung C. Ptosis Crutch: Success Treating Myogenic Ptosis Secondary to Myasthenia Gravis. American Optometric Association (AOA) 2008 Optometry Meeting Poster Session

Pruitt JA, Ilsen P. Ptosis Crutch: Success Treating Myogenic Ptosis Secondary To Myasthenia Gravis. Southeastern Congress of Optometry (SECO) 2008 Multimedia Poster Session

Lectures and Other:

Riverside-San Bernardino County Indian Health, Inc.: Eye Care Rounds (Nov 2016)
- Ptosis Crutch: Success Treating Myogenic Ptosis Secndary to Myasthenia Gravis
- CA Board of Optometry-approved CE

Riverside-San Bernardino County Indian Health, Inc.: Eye Care Rounds (Sept 2016)
- Visual Fields
- CA Board of Optometry-approved CE

Riverside-San Bernardino County Indian Health, Inc.: Eye Care Rounds (July 2016)
- Ethical Concerns with Short-term Mission Trips
- CA Board of Optometry-approved CE

Riverside-San Bernardino County Indian Health, Inc.: Eye Care Rounds (July 2016)
- Systemic Urgencies and Emergencies
- CA Board of Optometry-approved CE

Riverside-San Bernardino County Indian Health, Inc.: Eye Care Rounds (Mar 2016)
- Episcleritis, Scleritis, and Iritis
- CA Board of Optometry-approved CE

Illinois College of Optometry: Practice Opportunities Symposium (Mar 2011)
- Represented and presented on VA Optometry
- Participated in panel discussion on "Residency-trained Optometrists"

University of Minnesota: Pre-Optometry Club (Oct. 2010)

- Presentation on the profession of Optometry
- Presented and represented VA Optometry and NOA

Illinois College of Optometry: Capstone Ceremony (May 2010)

- Represented and presented on VA Optometry

Illinois College of Optometry: Practice Opportunities Symposium (Mar 2010)

- Participant in Residency-trained Speaker's Panel
- Represented and presented on VA Optometry

Illinois College of Optometry: White Coat Ceremony/Smart Business Program (Sept 2009)

- Participant on Recent Graduate Speaker's Panel