THE RETINA TIMES

EDUCATION. EXPERIENCE. COMPASSION.

Spring • 2022 • Issue #24

CASE STUDY: Recurrence of Proliferative Diabetic Retinopathy Following Treatment

Submitted by **Belinda Shirkey, MD**

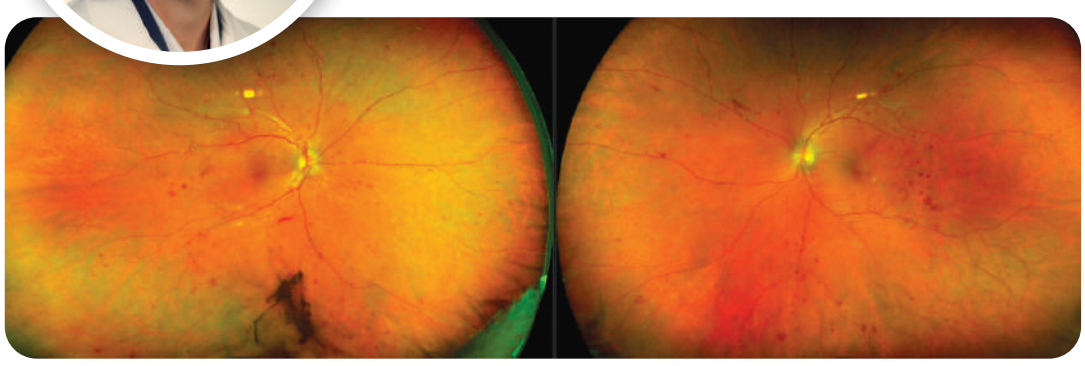


Figure 1: *Bilateral High Risk Proliferative Diabetic Retinopathy*

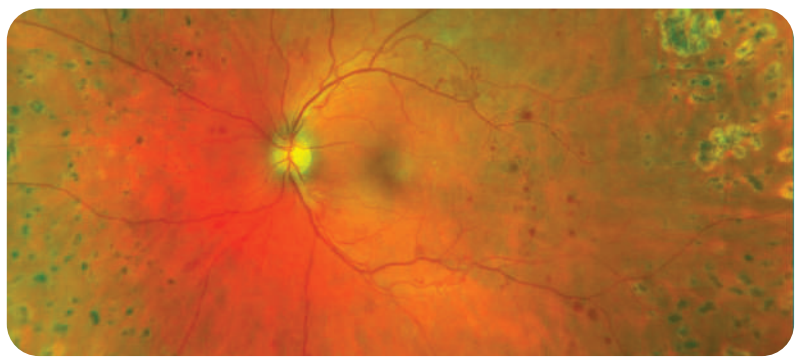


Figure 3: *Panretinal photocoagulation and anti-VEGF treatment induce a regression of diabetic neovascularization.*

Case Presentation

(Figure 1) A 52-year-old gentleman presents with new onset floater in his right eye. The vision is 20/20 in each eye. Slit lamp examination reveals red blood cells in the anterior vitreous. Inspection of the vitreous and retina demonstrates classic signs of high-risk proliferative diabetic retinopathy with neovascularization of the disc and vitreous hemorrhage.

Neovascularization on the disc (NVD) is defined as new vessels located within one disc-diameter of the optic disc. *(Figure 2)*

High Risk Characteristics of PDR

- *NVD > 1/4-to-1/3-disc area*
- *Any NVD associated with vitreous or preretinal hemorrhage*
- *Any NVE associated with vitreous or preretinal hemorrhage*

Figure 2: *Magnification of florid NVD*

The significance of high-risk PDR is an increased incidence of severe vision loss that is approximate 15% risk within 5 years.(footnote: Risk Factors for High-Risk Proliferative Diabetic Retinopathy and Severe Visual Loss: Early Treatment Diabetic Retinopathy Study Report #18 Davies, et al., IOVS, February 1998, Vol. 39, No. 2)

Treatment: Anti-VEGF treatment was given to both eyes immediately. Panretinal photocoagulation was performed within weeks.

(Figure 3) The patient was then lost to follow-up as the pandemic limited access to care.

(Figure 4) Upon representation, new aggressive NVD was seen. *(Figure 5 & 6)*

(Figure 7) Retreatment: Anti-VEGF intravitreal injection induces a retreat of the NVG.

Discussion:

Panretinal photocoagulation has been the mainstay of standard of care for treatment of proliferative diabetic retinopathy for many decades. With the augmentation of anti-VEGF therapy, there have been reports of relapsing proliferation if panretinal photocoagulation was not performed. This case is unique in the relentless progression of diabetic proliferative neovascularization after successful treatment with both laser and anti-VEGF. This exemplifies the need for steadfast follow-up for patients with diabetic retinopathy, even after treatment.

Diabetic epidemic in the Bluegrass. Kentucky state has a rate of 13.3% of all with diabetes. The national rate is 10.3%. This means 464,000 Kentuckians were living with diabetes in 2019. This is double the number of Kentucky patients with diabetes from a decade ago. In 2000, 6.5% of Kentucky adults had diabetes. In Eastern Kentucky, the rate of diabetes is 17% of all adults.

Among patients aged 25-74, diabetic retinopathy is a leading cause of vision loss worldwide. By 2030 an estimated 191.0 million people globally will have diabetic retinopathy, and approximately 56.3 million will have vision-threatening diabetic retinopathy. The Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR) Cohort showed that after 20 years of diabetes mellitus, 99% of patients with type 1 and 60% of patients with type 2 show some degree of retinopathy. There are several other key risk factors for the development of diabetic retinopathy beyond years since diagnosis and type of diabetes. Additionally, elevated hemoglobin A1c (HbA1c) levels and blood pressure are associated with increased risk of diabetic retinopathy.

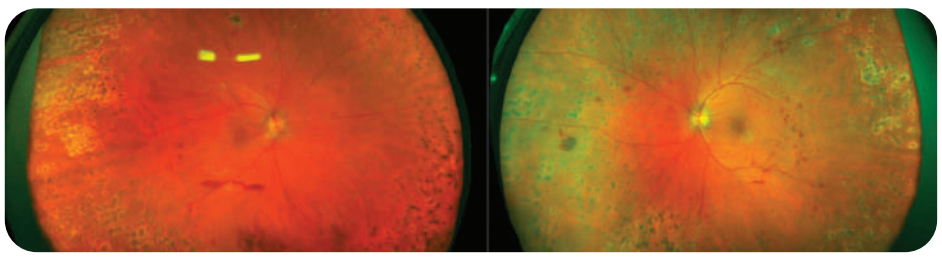


Figure 4: *NVD in the presence of an eye previously treated with panretinal photocoagulation and anti-VEGF.*

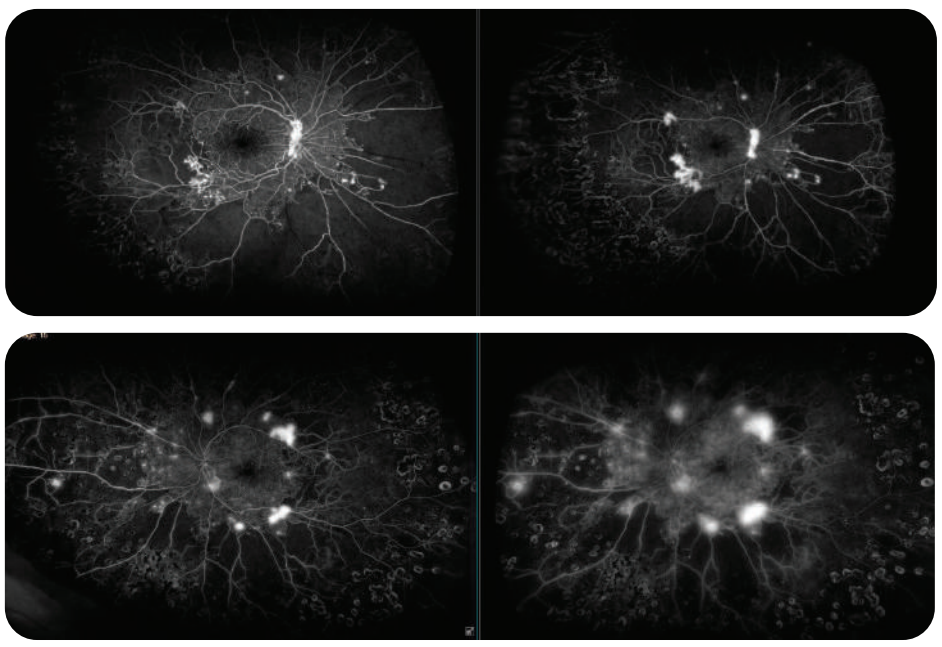


Figure 5 and 6: *Fluorescein angiography demonstrates window defects of excellent midperipheral and peripheral laser with areas of ischemia and active leakage of NVD.*

Compounded by Covid infection which limited access to care, this case demonstrates a recurrent neovascularization and progression of proliferation after standard of care treatment.

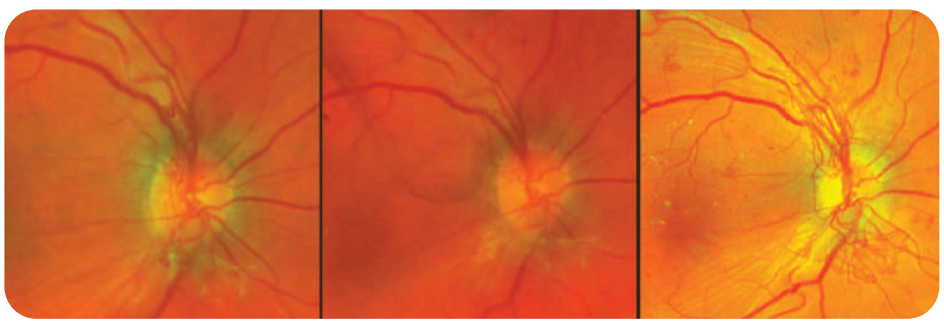


Figure 7. *NVD at presentation, after treatment, and recurrent:*

THE RETINA TIMES

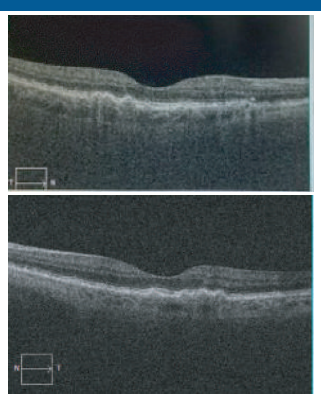
ForeseeHome Patient
BILATERAL nAMD CATCH CASE

Submitted by **Miguel Busquets, MD, FACS**

1 nAMD CATCH CASE → Initial Exam (OU): 10/22/19

October 22, 2019

- Patient referred for AMD evaluation OU; states she was diagnosed with AMD 3 years ago
- C/O mild constant blur due to cataracts for which she plans to have surgery
- VA: sc $20/50^{-1}$ OD, cc $20/30^{+2}$ OS
- SLEx Lens: 3^{+} NS, 2^{+} CS OD; $2\text{-}3^{+}$ NS, 2^{+} CS OS
- Macula Findings: High risk drusen, no heme or fluid OU; medium sized drusen with drusenoid PED and pigmentary changes OS
- OCT Findings: Extensive drusenoid RPE, PEDs OU; essentially flat OD, suspicious for leak OS
- Plan: Discussed findings with patient, take AREDS2 eye vitamins, wear hat and sunglasses when outside, maintain a healthy diet and exercise
- **Referred for ForeseeHome** *OU* and cataract surgery consult
- RTC: 2 months after cataract removal for exam and OCT OU



OCT OD

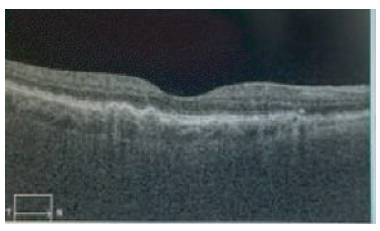
OCT OS

2 nAMD CATCH CASE → Last Exam Prior to Alert (OD): 2/22/21

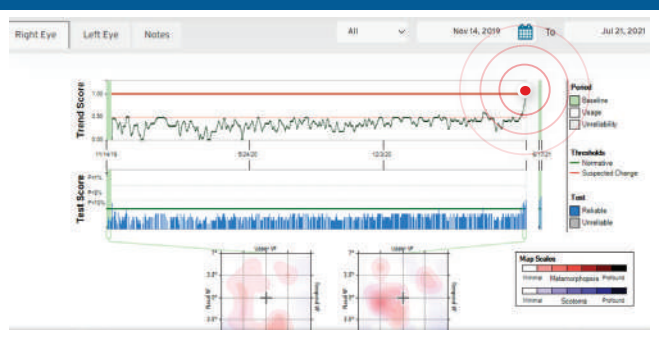
February 22, 2021

- Patient presents for regularly scheduled dry AMD OU follow up; asymptomatic
- Post cataract surgery OU with PC-IOL 1/8/20 OD, 1/15/20 OS
- VA: sc 20/20 OD
- SLEx Lens: PCIOL OD with clear capsule
- Macula Findings: Dry drusenoid changes OD
- OCT Findings: See attached image
- RTC: **6 months** dry AMD follow up exam and OCT

OCT OD



3 nAMD CATCH CASE → Baseline 11/19/19: VA 20/20 (OD) prior to alert



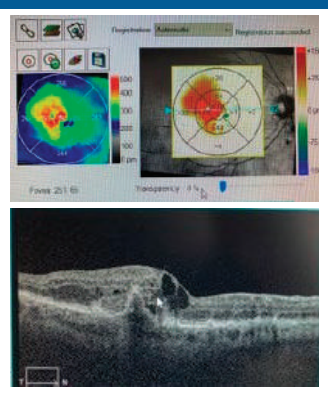
BASELINE 11/19/19
STARTED TESTING

6/13/21
ALERTED

4 nAMD CATCH CASE → Exam Post-Alert (OD): 6/18/21

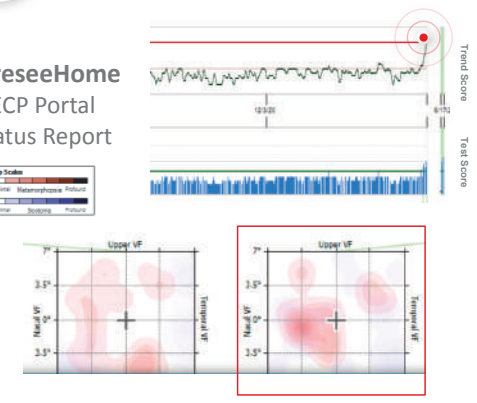
June 18, 2021

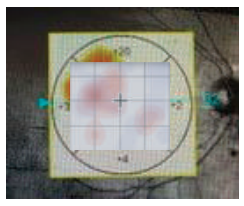
- **Patient presents for examination following ForeseeHome alert OD;** noticed changes in VA OD; was scheduled to return 6 months from February visit but noticed new 'wavy' and 'multiple lines' within the ForeseeHome device that started about 1 week prior
- VA: sc $20/20^{-3}$ OD
- SLEx: PCIOL OD with clear capsule
- Macula Exam: Medium sized drusen, PEDs, pigmentary changes, CNV with macular edema
- OCT Findings: Extensive drusen, PEDs, **new CNV with IRF**
- Diagnosis: **AMD Exudative with active CNV OD**
- Plan: Lucentis injection 0.5mg pre-filled syringe OD
- RTC: 4 weeks for definite IVL 0.5 OD 2/3 and OCT OU, **continue ForeseeHome OS for Dry AMD**



5 nAMD CATCH CASE → Baseline Vision: 20/20 OD

ForeseeHome
ECP Portal
Status Report

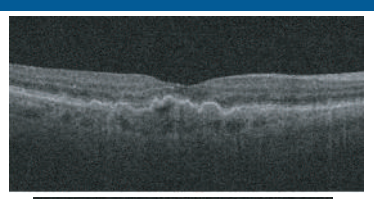




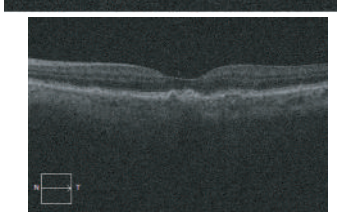
6 nAMD CATCH CASE → Exam 4th Injection (OD), follow-up (OS): 9/15/21

September 15, 2021:

- Patient presents for exam OU and possible injection OD; states VA stable OU
- VA: sc $20/20^{-2}$ OD, 20/125 → PH 20/30 OS
- SLEx Lens: PCIOL OU with clear capsule
- Macula Findings: Medium-sized drusen, PEDs, pigmentary changes OU; CNV with macular edema OD, no heme or fluid OS
- OCT Findings: See attached images; improved OD, stable OS since last visit
- Plan: Lucentis 0.5mg prefilled syringe injection #4 for wet AMD OD, continue monitoring with ForeseeHome for dry intermediate AMD OS;
RTC 6 weeks



OCT OD

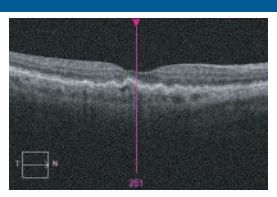


OCT OS

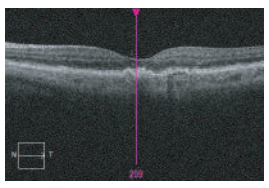
7 nAMD CATCH CASE → Exam 5th Injection (OD), follow-up (OS): 10/26/21

October 26, 2021:

- Patient presents for exam OU and possible injection OD; states VA stable & no concerns OU
- VA: sc $20/20^{-1}$ OD, $20/50^{-2}$ → PH 20/20 OS
- OCT Findings: See attached images, stable OU
- Plan: Lucentis 0.5mg prefilled syringe injection #5 for wet AMD OD, continue monitoring with ForeseeHome for dry intermediate AMD OS;
RTC 6 weeks



OCT OD

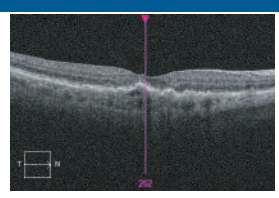


OCT OS

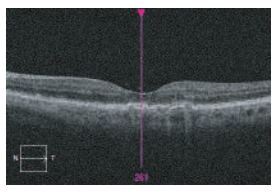
8 nAMD CATCH CASE → Exam 6th Injection (OD), follow-up (OS): 12/6/21

December 6, 2021:

- Patient presents for exam OU and possible injection OD; states VA OD mild and constant distortion since last visit
- VA: sc $20/20^{-1}$ OD, $20/60^{-1}$ → PH $20/25^{-2}$ OS
- OCT Findings: See attached images, stable OU
- Plan: Lucentis 0.5mg prefilled syringe injection #6 for wet AMD OD, continue monitoring with ForeseeHome for dry intermediate AMD OS;
RTC 6 weeks

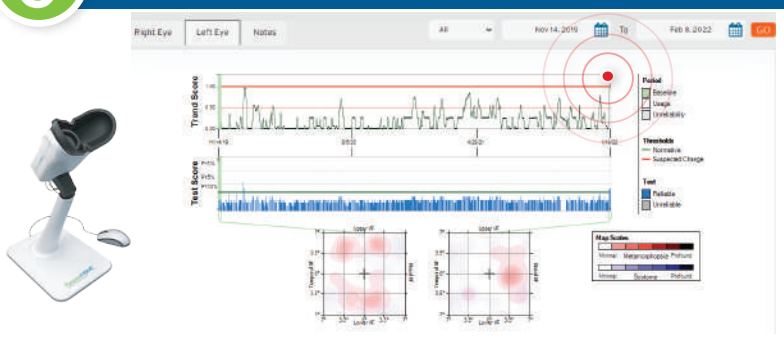


OCT OD



OCT OS

9 nAMD CATCH CASE → Baseline 11/19/19: VA PH 20/25^{-2} (OS) prior to alert



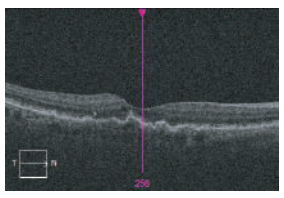
BASELINE 11/19/19
STARTED TESTING

1/19/22
ALERTED

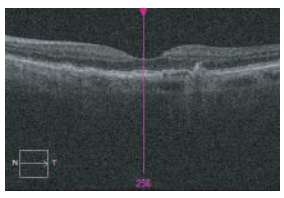
10 nAMD CATCH CASE → Exam Post-Alert (OS): 1/20/22

January 20, 2022

- **Patient presents for examination following ForeseeHome alert OS;** patient states *vision has remained stable* with no changes OU since last visit
- VA: sc 20/60^{-2} → PH 20/30 OS
- SLEx: PCIOL with clear capsule OS
- Macula Exam: Medium sized drusen, PEDs, pigmentary changes, no heme or fluid OS
- OCT Findings: Extensive drusen, clinically significant PED, **edema OS**
- Diagnosis: **AMD Exudative with active CNV OS**
- Plan: Lucentis injection 0.5mg pre-filled syringe #7 OD, #1 OS
- RTC: 4 weeks for injections and OCT OU



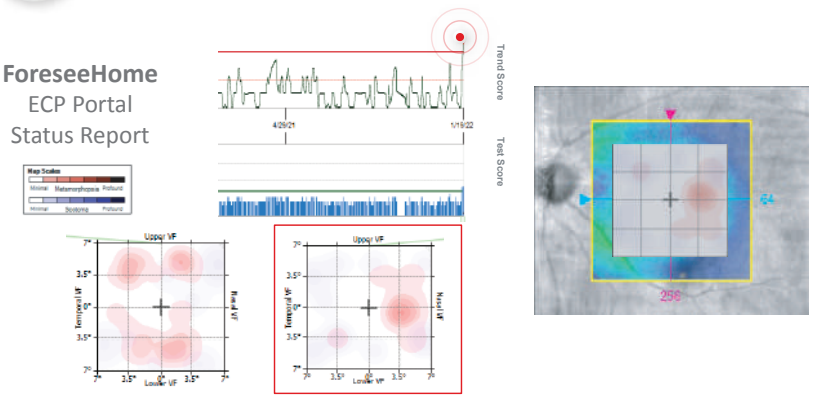
OCT OD



OCT OS

11 nAMD CATCH CASE → Baseline Vision: PH 20/25^{-2} OS

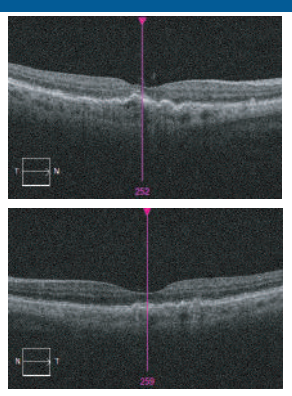
ForeseeHome
ECP Portal
Status Report



12 nAMD CATCH CASE → Exam 8th Injection (OD), 2nd Injection (OS): 2/21/22

February 21, 2022:

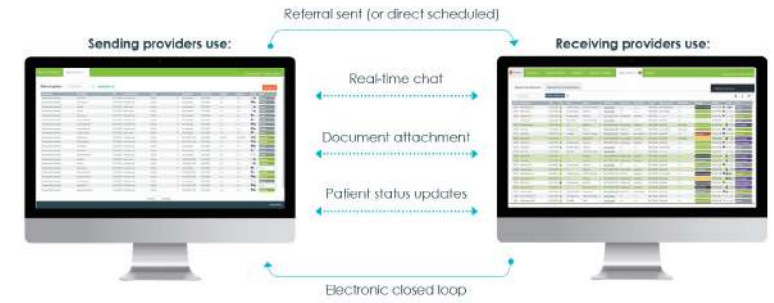
- Patient states vision is stable, presents for injections OU: Lucentis 0.5mg prefilled syringe
- VA: sc 20/20 OD, 20/50^{+1} → PH 20/25 OS
- OCT Findings: See attached images; improved OU
- RTC 4 weeks OCT and injections OU



OCT OD

OCT OS

THE CONNECT PLATFORM SIMPLIFIES COMMUNICATION WITH YOUR SPECIALISTS



Dedicated **Network Liaison** works hand-in-hand with your team throughout your onboarding

Connect.
Powered by Phreesia

REFERRAL PLATFORM

Retina Associates of Kentucky is now using an online referral request system, Connect.

This platform allows our referral scheduling process to be streamlined and ensure all patients get the care they need. This online referral request system, from Phreesia, allows referring providers like your practice to send and track referrals electronically, and at no cost to you.

SATELLITE LOCATION FREQUENCY

Danville:
Mondays and Thursdays + Surgery at Central Kentucky Surgery Center downtown Danville

Elizabethtown:
Wednesdays

Frankfort:
Fridays and some Wednesdays

Jeffersonville:
Mondays and Thursdays

London:
Fridays and some Mondays

Paintsville:
Wednesdays and some Thursdays

Richmond:
Tuesdays

Somerset:
Tuesdays and Thursdays

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NEW **ELIZABETHTOWN** OFFICE

WHAT'S **HAPPENING**

MAR 23 2022	**UPIKE KYCO/RAK CE** *Elizabethtown, Kentucky*	APR 21-23 2022	**Spring KOA Conference** *Lexington, Kentucky*	APR 22-23 2022	**Spring IOA Seminar** *Plainfield, Indiana*	MAY 13 2022	**Spring KAEPS Conference** *Louisville, Kentucky*	JUN 28 2022	**UPIKE KYCO/ RAK CE** *Jeffersonville, Indiana*

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