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**ROP Safety Net Office Toolkit**

**Anne M. Menke, RN, PhD**

**Reviewed by**

**Daniel M. Berinstein, MD; Denise R. Chamblee, MD;**

**Robert S. Gold, MD; and Christie L. Morse, MD**

**OMIC policyholders who provide care must comply with the ROP Safety Net.**

OMIC’s ROP Safety Net is based on our claims experience. It is designed to address the causes of ROP lawsuits in order to protect the infant and the ophthalmologist. The ROP Safety Net Toolkit contains sample protocols, which may need to be customized, and refers to ROP clinical care guidelines. These protocols and guidelines are recommendations and do not constitute the standard of care. Ophthalmologists should use their professional judgment in determining the applicability of a given recommendation to their particular patients and practice situation.

The Toolkit does not provide legal advice. Consult an attorney if legal advice is desired or needed. Information contained here is not intended to be a modification of the terms and conditions of the OMIC professional and limited office premises liability insurance policy. Please refer to the OMIC policy for these terms and conditions.

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**Use the hyperlinks to see tables and forms. To go back to where you were in the document using a PC, press Alt+left arrow.**

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# **Procedure 1b. Tracking outpatient ROP care**

**Use the hyperlinks to see tables and forms. To go back to where you were in the document using a PC, press Alt+left arrow.**

**Outpatient tracking principles**

1. A hospital with a treating ophthalmologist has agreed to admit infants from the outpatient setting who need ROP treatment, and can provide treatment within 72 hours.
2. The ophthalmologist is personally involved in the tracking.
3. The practice has a written protocol for contacting Child Protective Services.
4. The office ROP coordinator (O-ROPC):
	1. Is familiar with and understands the ROP Screening Policy Statement (PS)[[1]](#footnote-1) and the Tables in this ROP toolkit that are based upon it, and is able to use the Tables to review and clarify the appropriateness of follow-up and treatment intervals, and coordinate discharge or transfer.
	2. Works with the Hospital ROPC (H-ROPC) when an infant is discharged to schedule the initial outpatient visit.
	3. Educates the parent about ROP on an ongoing basis.
	4. Coordinates care provided during ROP exams.
	5. Coordinates transfers of care from one ophthalmologist to another.
5. The office ROP coordinator (O-ROPC) keeps the Outpatient [ROP Tracking List](#_Table_1._Which) of infants who are examined in the office.
	1. The Outpatient ROP Tracking List contains the following information for each ROP exam and treatment:
		1. Birth information: Infant’s name, date of birth, gestational age at birth, birth weight, and medical record number.
		2. Exam information: Postmenstrual age (gestational age + chronological age), date of exam or treatment, ROP status, next exam (given as both an interval and an approximate date), discharge/transfer date, and date when the infant met the conclusion of acute-phase-screening criteria.
	2. NOTE: The Outpatient ROP Tracking List may be a continuation of the Hospital ROP Tracking List, or a separate list.
6. The O-ROPC tracks outpatient ROP appointments in two ways:
	1. Reviews outpatient appointments **daily** and
	2. Reviews the Outpatient Tracking List **at least once a week**
7. The O-ROPC notifies the ophthalmologist of all missed, cancelled, and rescheduled ROP appointments, and follows up as instructed by the ophthalmologist.
8. The O-ROPC tracks each infant until the infant meets end-of-acute-screening criteria [[Table 5. When to stop](#_Table_5.__1)].

**Tracking process**

1. The hospital ROPC (H-ROPC) contacts the O-ROPC when an infant needs outpatient ROP care and:
	1. Confirms that an ophthalmologist has agreed to take over the ROP care,
	2. Indicates the interval and approximate date of the first outpatient exam,
	3. Schedules the initial outpatient ROP exam, and
	4. Sends the O-ROPC all pertinent medical records and current contact information for the parent.
2. Staff members who answer phones use the [ROP exam request form](#_Consent_for_laser) to determine if ROP care is needed when a parent, physician, or hospital where the ophthalmologist does not provide ROP care requests an appointment for an infant.
3. The O-ROPC adds the infant to the Outpatient [ROP Tracking List](#_Table_1._Which) and begins outpatient tracking.
4. The O-ROPC updates the Outpatient ROP Tracking List at each of the following stages in care:
	1. After each exam:
		1. The ophthalmologist informs the O-ROPC of the results of the ROP exam and the interval and approximate date of the next exam (e.g., next exam in two weeks on approximately 9/25/19).
		2. The O-ROPC compares the requested follow-up interval to that recommended in the ROP Screening Policy Statement (PS) [[Table 3. Follow-up exams](#_Table_3.__1)] and contacts the ophthalmologist if the interval is longer than the one indicated by the PS, and/or longer than 3 weeks since the last exam.
	2. When treatment might be needed:
		1. The screening ophthalmologist informs the O-ROPC that an infant might need treatment [[Table 4. When to treat](#_Table_4._)], and contacts the treating ophthalmologist to conduct the transfer-of-care discussion.
		2. The O-ROPC contacts the Admitting Nurse for the Ambulatory Surgery Center at the hospital where the infant will be treated.
		3. The Admitting Nurse contacts the treating ophthalmologist to schedule the consultation to determine if treatment is needed.
	3. After treatment:
		1. The treating ophthalmologist informs the O-ROPC of the treatment given, and the interval and approximate date of the follow-up exam.
			1. The O-ROPC of the treating ophthalmologist contacts the O-ROPC of the screening ophthalmologist if the treating ophthalmologist does not perform the follow-up exams.
			2. The treating ophthalmologist conducts and documents the transfer-of-care discussion with the screening ophthalmologist.
		2. The O-ROPC compares the scheduled follow-up interval to that recommended in the PS and contacts the ophthalmologist if the interval is longer than the one indicated by the PS.
	4. When care of the infant is transferred to/from:
		1. Screening and treating ophthalmologist
		2. Hospital-based and outpatient ophthalmologist
		3. Ophthalmologist in one hospital to ophthalmologist in another hospital.
	5. When ROP screening and treatment are complete.
		1. ***Per the Policy Statement, one exam is sufficient only if it unequivocally shows the retina to be fully vascularized in both eyes.***
		2. The infant is tracked by the O-ROPC until one of the following conditions has been met and documented:
			1. A treating ophthalmologist has verified that the treatment and follow-up examinations are complete.
			2. Both eyes have met the conclusion-of-acute-screening criteria based upon a binocular indirect ophthalmoscopy exam [[Table 5. When to stop ROP](#_Table_5.__1)].
			3. The current ophthalmologist conducts and documents a transfer-of-care discussion with the ophthalmologist who will take over care.
5. The O-ROPC follows up on all missed, cancelled, or rescheduled ROP appointments, including no-shows and cancelled or rescheduled appointments and:
	1. Reschedules the exam as directed by the ophthalmologist.
	2. Sends the [Missed appointment letter](#_Missed_appointment_letter) or [Spanish Missed appointment letter](#_Carta_de_incumplimiento) if unable to reach the parents and schedule the exam.
	3. Contacts Child Protective Services if requested by the ophthalmologist.

# **Procedure 2. ROP exam in office**

**Outpatient ROP exam principles**

1. A hospital with a treating ophthalmologist has agreed to admit infants from the outpatient setting for ROP treatment.
2. The screening ophthalmologist:
	1. Has sufficient knowledge and experience to identify accurately the location and sequential retinal changes of ROP after pupillary dilation using binocular indirect ophthalmoscopy with a lid speculum and scleral depression as needed, per the PS.
	2. Uses the International Classification of Retinopathy of Prematurity (ICROP) Revisited[[2]](#footnote-2)to classify, diagram, and record the retinal findings.
	3. Knows and understands treatment criteria [[Table 4. When to treat](#_Table_4._)].
3. The office ROP coordinator (O-ROPC):
	1. Is familiar with and understands the PS and the Tables in this ROP toolkit that are based upon it, and is able to use the Tables to review and clarify the appropriateness of follow-up and treatment intervals, and coordinate discharge or transfer.
	2. Works with the Hospital ROPC (H-ROPC) when an infant is discharged to schedule the initial outpatient visit.
	3. Uses the Outpatient [ROP Tracking List](#_Table_1._Which) to track all infants examined in the office who meet the screening criteria for ROP.
	4. Educates the parent about ROP on an ongoing basis.
	5. Coordinates care provided during ROP exams.
	6. Coordinates transfers of care from one ophthalmologist to another.
4. The ophthalmologist’s practice:
	1. Has a written policy on which infants the practice is willing to see (include talking points for staff to use if some patients are not accepted):
		1. Only patients from hospitals where the ophthalmologist provides ROP care
		2. Patients referred from any hospital
		3. Patients referred from other physicians, and/or
		4. Patients whose parent requests an exam.
	2. Educates staff members about ROP, including the importance of making sure the parent brings the baby to all scheduled appointments, that treatment must be provided within 72 hours, and that the baby could go blind if the ROP is not treated.
	3. Has trained staff members who answer phones how to determine if the infant needs ROP care.
	4. Follows up on all missed, cancelled, and rescheduled ROP appointments.
	5. Has a written protocol for contacting Child Protective Services.

**Office ROP exam procedure**

1. The ophthalmologist determines when the initial exam is needed if not done in the hospital [[Table 2. When to start ROP](#_Table_2._When)].
2. The O-ROPC or designated staff member assists the ophthalmologist during the ROP exam and:
	1. Provides the necessary supplies:
		1. Sterile NICU eye tray with lid speculum and depressor
		2. Anesthetic eye drops
		3. Indirect ophthalmoscope
		4. 20 and 28 diopter lenses
		5. Dilating eye drops
		6. Gloves
	2. Dilates the infants’ eyes at the time ordered by the ophthalmologist per the dilating protocol.
	3. Ensures that participants in the eye exam have washed their hands and, if indicated, wear gloves to prevent eye irritation and infection.
	4. Secures the infant in a blanket, holds the infant during the exam, and provides a pacifier and/or oral sucrose for comfort.
	5. Monitors the infant for side effects associated with the dilating eye drops and exam.
	6. Documents the dilation, exam, and the infant’s condition during the exam.
	7. Cleans and sterilizes the equipment according to the manufacturer’s specifications to prevent eye irritation and infection.
3. The ophthalmologist performs a binocular indirect ophthalmoscopy (BIO) exam after pupillary dilation, and documents the findings using ICROP.
4. The ophthalmologist determines the timing of the next examination [[Table 3. Follow-up exams](#_Table_3.__1)].
	1. Current guidelines indicate a range of 1 to 3 weeks between examinations, depending upon the findings.
	2. Infants at high risk for ROP may need more frequent examinations.
	3. Infants treated with an anti-VEGF medication (i.e., Avastin or Lucentis) need to be monitored until at least 65 weeks postmenstrual age (PMA).
5. The ophthalmologist informs the O-ROPC of the interval **and** approximate date (e.g., next eye exam in two weeks around 9/25/19) of the next ROP exam, and instructs the O-ROPC to schedule the appointment before the parent leaves the office.
6. The ophthalmologist completes and signs the [Outpatient screening letter](#_Table_1._Which_1) or [Spanish outpatient screening letter](#_\“Missed_appointment\”_letter) after the **first** outpatient ROP exam and:
	1. Reviews the letter with the parent, and obtains a signature.
	2. Gives the parent a copy of the signed document.
	3. Places a copy of the signed document in the infant’s medical record.
7. The ophthalmologist determines if treatment might be needed [[Table 4. When to treat](#_Table_4._)] and:
	1. Conducts and documents a transfer-of-care discussion with the treating ophthalmologist.
	2. Asks the O-ROPC to contact the Admitting Nurse for the Ambulatory Surgery Center at the hospital where the infant will be treated to schedule the treatment and confirm that it will take place within 72 hours.
8. The ophthalmologist screens for ROP until one of the following conditions has been met and documented:
	1. ***Per the Policy Statement, one exam is sufficient only if it unequivocally shows the retina to be fully vascularized in both eyes.***
	2. A treating ophthalmologist has verified that the treatment and follow-up examinations are complete.
	3. Both eyes have met the conclusion-of-acute-screening criteria based upon a BIO exam [[Table 5. When to stop](#_Table_5.__1)].
	4. The current ophthalmologist conducts and documents a transfer-of-care discussion with the ophthalmologist who will take over care.
9. The ophthalmologist informs the O-ROPC and pediatrician when ROP screening is complete, and of the need for an outpatient screening exam for eye conditions associated with prematurity.
10. The O-ROPC schedules the outpatient screening exam.

# **ROP Tracking List**

NOTE: To use as an Excel document, click on the list, choose “Worksheet Object” and then “Open.”



# **ROP exam request form**

**Date** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PARENT/GUARDIAN NAME:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Home & Cell Phone Numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Alternate contact and contact information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**REFERRING HOSPITAL/PHYSICIAN**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact person \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone/Fax/Email \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reason for referral \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**BABY NAME:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Premature? Yes/No If so, how premature? \_\_\_\_\_\_\_\_ (weeks/months)

Birth date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Current age \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Birth weight \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Current weight \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Eye exam in the hospital? Yes/No Date of last eye exam \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ophthalmologist who did last eye exam \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**APPOINTMENT SCHEDULING (Date and initial)**

* Scheduled appointment for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Educated about risks
	+ Advised to call the office right away if the baby cannot come for the appointment.
	+ Reminded family that baby could go blind from ROP if not treated on time.
	+ Informed that practice may contact Child Protective Services.
* Gave contact form to office ROP coordinator, who will add baby to the ROP tracking list.

# **Missed appointment letter**

This sample letter is provided as a guideline only and should be modified according to the situation. ***If the baby’s condition warrants a certified letter, send it both certified and through the regular mail.*** Place the letter and the signed return receipt (if sent certified) in the baby’s chart.

**PRACTICE NAME AND ADDRESS**

[CERTIFIED MAIL-RETURN RECEIPT REQUESTED]

(Date)

Dear (person caring for baby):

You missed the eye exam appointment for your premature baby on \_\_\_\_\_\_\_\_ (date). We were unable to reach you by telephone.

Your baby is being screened or treated for an eye condition known as retinopathy of prematurity or ROP.

**Without proper care, your baby may suffer permanent damage, such as a retinal detachment, and lose vision or even develop blindness in both eyes.**

**If you do not call our office by** [insert date] **at the number listed above, I may need to contact Child Protective Services to help make sure that your infant gets the care he or she needs.**

I am not trying to alarm you or get you in trouble. I am trying to give your baby the care needed to prevent blindness.

Please contact our office as soon as possible to reschedule.

With best regards,

(Physician’s Signature & Name)

# **Carta de incumplimiento de cita médica**

Esta es una carta de muestra y solo debe modificarse según la situación. ***Si el estado del (de la) bebé requiere el uso de una carta certificada, envíela tanto certificada como por vía regular.*** Incluya la carta y el comprobante de recibo firmado (si se ha enviado una carta certificada) en la historia clínica del (de la) bebé.

**NOMBRE Y DIRECCIÓN DEL CENTRO MÉDICO**

[SE REQUIERE CARTA CERTIFICADA]

(Fecha)

Apreciado(a) (persona responsable por el cuidado del (de la) bebé):

Usted no trajo a su bebé prematuro(a) a la cita que tenía programada el \_\_\_\_\_\_\_\_ (fecha). No pudimos comunicarnos por teléfono con usted.

Su bebé está siendo examinado(a) o tratado(a) para una afección ocular que se conoce como retinopatía de la prematurez o ROP.

**A menos que reciba atención adecuada, su bebé puede sufrir daño ocular permanente como un desprendimiento de retina y pérdida de la visión o inclusive puede sufrir pérdida de la visión en ambos ojos.**

**A menos que llame al consultorio antes de** [fecha] **al número que aparece arriba, estaré obligado(a) a comunicarme con los Servicios de Protección del Menor para poder estar seguro(a) de que su bebé obtenga el cuidado médico que requiere.**

No es mi intención alarmarlo(a) ni causarle problemas. Lo que pretendo es que su bebé reciba la atención que requiere para evitar que quede ciego(a).

Por favor comuníquese con nuestro consultorio a la mayor brevedad para programar otra cita.

Atentamente,

(Firma y nombre del médico)

# **Outpatient screening letter**

Ophthalmologist: Give this to the parent after the first outpatient exam. Place on your letterhead

Dear \_\_\_\_\_\_\_\_\_

I examined the baby’s eyes today. This letter will explain why I needed to do the exam. It will also explain when I will need to examine the baby’s eyes again.

**Your baby may have a condition of the retina (the back of the eye) called ROP (retinopathy of prematurity).** After a premature birth, the blood vessels at the back of the eye may stop growing. The baby’s body responds by making a chemical called VEGF (vascular endothelial growth factor). This chemical makes new blood vessels start growing.

But these are not normal blood vessels. These abnormal blood vessels can bleed. They can also pull (detach) the retina away from its normal position. This is called an RD (retinal detachment), and it can cause blindness. ROP needs to be treated with 72 hours when it reaches a certain stage. Your baby could go blind without treatment.

**The next few months are very important.** We need your help to keep your baby from going blind. I will need to examine the baby’s eyes many times. I will be checking for abnormal blood vessels. The exams must continue until the blood vessels heal.

You must bring the baby in to the office or clinic for every appointment. My office will contact you if you missan appointment. If we cannot reach you, we may need to contact Child Protective Services to help bring the baby in for an eye exam.

**Here is what I found today when I examined your baby**

\_\_\_\_Your baby’s blood vessels are abnormal. The baby may need treatment soon. I will examine the baby each week to see if treatment is needed. The next ROP exam is on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (date) in \_\_\_\_\_ weeks.

\_\_\_\_Your baby’s blood vessels are abnormal. But the baby does not need treatment right now. I will examine the baby again to see if treatment is needed. The next ROP exam is on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (date) in \_\_\_\_\_ weeks.

\_\_\_\_\_Your baby’s blood vessels are almost normal. The baby will not need treatment for ROP. But the baby needs a different type of eye exam. This exam will include a check for crossed eyes, lazy eye, or nearsightedness. We will examine your baby on \_\_\_\_\_\_\_\_\_\_\_ (date).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name of ophthalmologist \_\_\_\_\_ Date

# **Carta de tamizaje de paciente externo**

Nota para el Oftalmólogo: Entregue esta carta a uno de los padres del paciente después del primer examen de paciente externo. Copie esto en su papel membretado.

Ophthalmologist: Give this to the parent after the first outpatient exam. Place on your letterhead

Apreciado(a) \_\_\_\_\_\_\_\_\_

He examinado hoy los ojos de su bebé. Esta carta le explicará por qué era necesario que yo hiciera este examen, le explicará también cuándo necesitaré volver a examinar los ojos del bebé.

**Su hijo**(a)  **tiene una afección de la retina (la parte de atrás del ojo) que se conoce como ROP (retinopatía de la prematurez).** Después de un nacimiento prematuro, los vasos sanguíneos de la parte posterior del ojo pueden dejar de crecer. El organismo del bebé responde produciendo una sustancia química conocida como VEGF (factor de crecimiento de la vasculatura endotelial). Esta sustancia química hace que comiencen a desarrollarse nuevos vasos sanguíneos.

Pero estos vasos sanguíneos no son normales. Son vasos sanguíneos anormales que pueden sangrar. También halan (desprenden) la retina separándola de su posición normal. Es lo que se conoce como DR (desprendimiento de retina), y puede causar ceguera. Si esta afección llega a una cierta etapa, se hace necesario tratar la ROP en el trascurso de 72 horas. Su bebé podría quedar ciego(a) si no se le trata oportunamente.

**Los meses inmediatamente siguientes son muy importantes.** Necesitamos su ayuda para evitar que su bebé pierda la visión. Será necesario que lo examine muchas veces. Lo estaré controlando para detectar vasos sanguíneos anormales. Los exámenes deben continuar hasta que los vasos sanguíneos sanen.

Deberá traer al bebé al consultorio o a la clínica para cada cita de control. El personal de mi consultorio se comunicará con usted en caso de que deje de cumplir alguna cita. Si no podemos comunicarnos con usted, tal vez tengamos que contactar a los Servicios de Protección de Menores para ayudar a que el bebé vuelva a recibir los exámenes oculares necesarios.

**Al examinar hoy al bebé encontré lo siguiente:**

\_\_\_\_Los vasos sanguíneos de su bebé son anormales. Es posible que el bebé requiera tratamiento a la mayor brevedad. Examinaré semanalmente al bebé para ver si se necesita tratamiento. El próximo examen de la ROP será el \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (fecha) en \_\_\_\_\_ semanas.

\_\_\_\_Los vasos sanguíneos de su bebé son anormales. Pero su bebé no requiere tratamiento de inmediato. Lo examinaré de nuevo para ver si se requiere tratamiento. El siguiente examen de ROP será el \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (fecha) en \_\_\_\_\_ semanas.

\_\_\_\_\_Los vasos sanguíneos de su bebé están casi normales. El bebé no requerirá tratamiento para la ROP. Sin embargo, requiere un tipo diferente de examen ocular. Este examen incluirá un estudio para determinar si es bizco, si tiene un ojo perezoso o si es miope. Su bebé deberá ser examinado en una cita de control aproximadamente el \_\_\_\_\_\_\_\_\_\_\_ (fecha).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Nombre del oftalmólogo\_\_\_\_\_ Fecha

# [**Table 1. Which infants need an ROP screening examination**](#Table_1)**[[3]](#footnote-3)**

Infants meeting any of the following criteria need an exam:

* Birth weight of ≤ 1500 g (3 lbs., 4 oz.)
* Gestational age of 30 weeks or less (as defined by the attending neonatologist)
* Selected infants with a birth weight between 1500 and 2000 g (from 3 lbs., 4 oz. to 4lbs, 6 oz.) or gestational age of more than 30 weeks who are believed by their attending pediatrician or neonatologist to be at risk for ROP (such as infants with hypotension requiring inotropic support, infants who received oxygen supplementation for more than a few days, or infants who received oxygen without saturation monitoring).

**REFERENCE: ROP Screening Policy Statement # 1**. Based on Recchia, Franco and Capone, Antonio, Contemporary Understanding and Management of Retinopathy of Prematurity, *Retina* 2004; 24:283-92.

# **[Table 2. When to start ROP screening](#Table_2)**

The onset of serious ROP correlates better with postmenstrual age (gestational age at birth plus chronological age) than with postnatal age. This protocol bases the initial eye examination on postmenstrual age and chronological age. The initial eye examination should be conducted:

* By 31 weeks postmenstrual age if gestational age < 27 weeks
* At 4 weeks chronological age if gestational age ≥ 27 weeks

 **Age in weeks at initial exam**

|  |  |  |
| --- | --- | --- |
| **Gestational age at birth**  | **Postmenstrual age** | **Chronologic age** |
| 22a\* | 31 | 9 |
| 23a\* | 31 | 8 |
| 24\* | 31 | 7 |
| 25\* | 31 | 6 |
| 26 | 31 | 5 |
| 27 | 31 | 4 |
| 28 | 32 | 4 |
| 29 | 33 | 4 |
| 30 or more | 34 | 4 |
|  |  |  |

a This guideline should be considered tentative rather than evidence-based for 22-to-23-week infants owing to the small number of survivors in these gestational age categories.

**\***Some practitioners have advocated for earlier screening on the basis of speculation that treatable aggressive posterior ROP (AP-ROP) could occur before 31 weeks postmenstrual age. AP-ROP is a severe form of ROP that is characterized by rapid progression to advanced states in posterior ROP.

**REFERENCE: ROP Screening Policy Statement #2.** Based upon Reynolds JD, Dobson V, Quinn GE, et al. CRYO-ROP and LIGHT-ROP Cooperative Groups. Evidence-Based Screening Criteria for Retinopathy of Prematurity: Natural History Data from the CRYO-ROP and LIGHT-ROP Studies. *Arch Ophthalmol.* 2002; 120 (11): 1470-1476.

# **[Table 3. Follow-up schedule for ROP exams](#Table_3)**

The examining ophthalmologist should use retinal findings as classified by ICROP[[4]](#footnote-4) to determine the timing of the follow-up examinations.

* 1 week or less
	+ Zone I: Immature vascularization, no ROP
	+ Zone I: Stage 1 or 2 ROP
		- **NOTE IN PS:** Zone I, Stage 3 requires treatment, not observation
	+ Immature retina extends into posterior zone I, near the boundary of zone –zone II.
	+ Suspected presence of AP-ROP (aggressive posterior ROP)
	+ After laser photocoagulation or anti-VEGF injection to ensure that there is no need for additional laser treatment in areas where ablative treatment was not complete or additional anti-VEGF injection.
* 1 to 2 weeks
	+ Posterior zone II: Immature vascularization
	+ Zone II, Stage 2 ROP
	+ Zone I: Unequivocally regressing ROP
* 2 weeks
	+ Zone II: Stage 1 ROP
	+ Zone II: no ROP, immature vascularization
	+ Zone II: Unequivocally regressing ROP
* 2 to 3 weeks
	+ Zone III: Stage 1 or 2 ROP
	+ Zone III: Regressing ROP

**REFERENCE**: **ROP Screening Policy Statement #4**. Based on Reynolds JD, Dobson V, Quinn GE, et al. CRYO-ROP and LIGHT-ROP Cooperative Groups. Evidence-Based Screening Criteria for Retinopathy of Prematurity: Natural History Data from the CRYO-ROP and LIGHT-ROP Studies. *Arch Ophthalmol.* 2002; 120 (11): 1470-1476.

# **Table 4. When to treat ROP**

* The presence of plus disease in zones I or II suggests that peripheral ablation, rather than observation, is appropriate.\*
	+ Plus disease is defined as abnormal dilatation and tortuosity of the posterior retinal blood vessels in 2 or more quadrants of the retina meeting or exceeding the degree of abnormality represented in reference photographs
	+ The presence of plus disease rather than the number of clock hours of disease, is the better determining factor in recommending ablative treatment.
* Treatment should be initiated for the following retinal findings that characterize Type 1 ROP:
	+ Zone I ROP: any stage with plus disease
	+ Zone I ROP: stage 3, no plus disease
	+ Zone II ROP: stage 2 or 3 with plus disease
* Treatment should generally be accomplished, when possible, within 72 hours of determination of treatable disease to minimize the risk of retinal detachment.
* Consideration may be given to treatment of infants with zone I stage 3+ ROP with intravitreal injection of bevacizumab.#
	+ Bevacizumab and other anti-VEGF substances are not approved by the US Food and Drug Administration for the treatment of ROP.
	+ Treatment should only be administered after obtaining detailed informed consent, because there remain unanswered questions involving dosage, timing, safety, and visual and systemic outcomes. Studies have yielded contrary findings on the increased incidence of neurodevelopmental problems, including severe cerebral palsy, hearing loss, and bilateral blindness.
	+ Infants treated with bevacizumab should be monitored closelyuntil at least 65 weeks postmenstrual age
	+ Longer follow-up is required because recurrence occurs considerably later (16 ± 4.6 weeks vs 6.2 ± 5.7 weeks) than after laser therapy. There are reports of recurrence requiring retreatment as late as 65 to 70 weeks postmenstrual age.
	+ The timeframe of highest disease reactivation is between 45 and 55 weeks.
* Follow up is recommended in 3 to 7 days after laser photocoagulation or anti-VEGF injection to ensure that there is no need for additional laser treatment in areas where ablative treatment was not complete or for additional anti-VEGF injection.

**REFERENCE: ROP Screening Policy Statement #4 based upon:**

\* Early Treatment for Retinopathy of Prematurity Cooperative Group. Revised Indications for the Treatment of Retinopathy of Prematurity. Results of the Early Treatment for Retinopathy of Prematurity Randomized Trial. *Arch Ophthalmol.* 2003; 121:1684-1694.

* # Mintz-Hittner HA, Kennedy KA, Chuang AZ; BEAT-ROP Cooperative Group. Efficacy of intravitreal bevacizumab for stage 3+ retinopathy of prematurity. *N Engl J Med*. 2011; 364(7):603–615.

# **Table 5. When to stop ROP screening**

**Per the Policy Statement, one exam is sufficient only if it unequivocally shows the retina to be fully vascularized in both eyes.**

The conclusion of acute-retinal-screening examinations should be based on age and retinal ophthalmoscopic findings. Findings that suggest that examinations can be terminated include:

* Full retinal vascularization in close proximity to the ora serrata for 360°--that is, the normal distance found in mature retina between the end of vascularization and the ora serrata.
* Zone III retinal vascularization attained without previous zone I or II ROP
	+ If there is examiner doubt about the zone or if the postmenstrual age is less than 35 weeks, confirmatory examinations may be warranted.
* Postmenstrual age of 45 weeks: No type 1 ROP or worse is present, and no anti-VEGF treatment
	+ Type 1 ROP disease (previously called “pretheshold”) defined as:
		- Stage 3 ROP in zone II
		- Any ROP in zone I
* Postmenstrual age of 65 weeks: Infants treated with anti-VEGF
	+ Follow closely until at least 65 weeks postmenstrual age
	+ Particularly close follow-up is needed during the time of highest risk for disease reactivation (45 to 55 weeks PMA)
	+ Care must be taken to be sure that there is no abnormal vascular tissue present that is capable of reactivation and progression in Zone II or III
	+ Full retinal vascularization should be the criterion for all infants treated solely with anti-VEGF medication.
	+ Full retinal vascularization is not always achieved in infants treated with anti-VEGF alone.
	+ If there is not full retinal vascularization at 65 weeks PMA, rely upon prolonged observation, clinical judgment, and evolving criteria for termination of exams or a need for further treatment.
* Regression of ROP (see ICROP)
	+ Care must be taken to be sure that there is no abnormal vascular tissue present that is capable of reactivation and progression in zone II or III.

**REFERENCE: ROP Screening Policy Statement # 4.** Based upon Reynolds JD, Dobson V, Quinn GE, et al. CRYO-ROP and LIGHT-ROP Cooperative Groups. Evidence-Based Screening Criteria for Retinopathy of Prematurity: Natural History Data From the CRYO-ROP and LIGHT-ROP.*Arch Ophthalmol.* 2002; 120 (11): 1470-1476.

1. Fierson WM. “Screening Examination of Premature Infants for Retinopathy of Prematurity.” Policy Statement (PS) issued by the American Academy of Pediatrics (AAP) Section on Ophthalmology, the American Association of Pediatric Ophthalmology and Strabismus (AAPOS), and the American Association of Certified Orthoptists. Originally issued in 1997 and updated in 2001, 2005, 2006, and 2018; current version published in *Pediatrics* (Volume 142, Number 6, 2018, at <http://pediatrics.aappublications.org/content/142/6/e20183061>. This document refers to recommendations based upon the numbers assigned to them in the PS. [↑](#footnote-ref-1)
2. The International Classification of Retinopathy of Prematurity Revisited. International Committee for the Classification of Retinopathy of Prematurity. *Arch Ophthalmol* 2005. 123: 991-999. Available at <https://jamanetwork.com/journals/jamaophthalmology/fullarticle/417157>. [↑](#footnote-ref-2)
3. Clinical tables based upon Fierson WM. “Screening Examination of Premature Infants for Retinopathy of Prematurity.” Policy Statement (PS) issued by the American Academy of Pediatrics (AAP) Section on Ophthalmology, the American Association of Pediatric Ophthalmology and Strabismus (AAPOS), and the American Association of Certified Orthoptists. Originally issued in 1997 and updated in 2001, 2005, 2006, and 2018; current version published in *Pediatrics* (Volume 142, Number 6, 2018, at <http://pediatrics.aappublications.org/content/142/6/e20183061>. This document refers to recommendations based upon the numbers assigned to them in the PS. [↑](#footnote-ref-3)
4. The International Classification of Retinopathy of Prematurity Revisited. International Committee for the Classification of Retinopathy of Prematurity. *Arch Ophthalmol* 2005. 123: 991-999. Available at <https://jamanetwork.com/journals/jamaophthalmology/fullarticle/417157>. [↑](#footnote-ref-4)