

Assessing the Management of Infantile Hemangiomas: A Survey of Pediatric Dermatology Providers

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UCSF



This is a Cute Baby Survey

by

Val and Friends



Disclosures

- I have no relevant financial relationships
- Research support provided by PeDRA and SPD



Pediatric
Dermatology
Research
Alliance



THE SOCIETY FOR
pediatric
dermatology SINCE 1975

Infantile Hemangioma (IH) is the Most Common Tumor of Infancy



Courtesy of Dr. Marilyn Liang

Many Treatments, None of Them Perfect

- Corticosteroids (topical, intra-lesional, and systemic)
- Topical imiquimod
- Vincristine
- Interferon-alpha
- Cyclophosphamide
- Cryotherapy
- Pulsed dye laser
- Sclerotherapy
- Surgical excision
- Irradiation



Chattinnakorn. Srinagarind Med J 2015 ; 30 (5)

The New Era

- 2008 – propranolol
- 2013 – Drolet et al. consensus guidelines
- 2014 – FDA approval of Hemangeol™
- Where are we now???



Léauteé-Labrière C, Dumas de la Roque E, Hubiche T, et al. Propranolol for severe infantile hemangiomas of infancy. *N Engl J Med.* 2008;358(24):2649-2651.

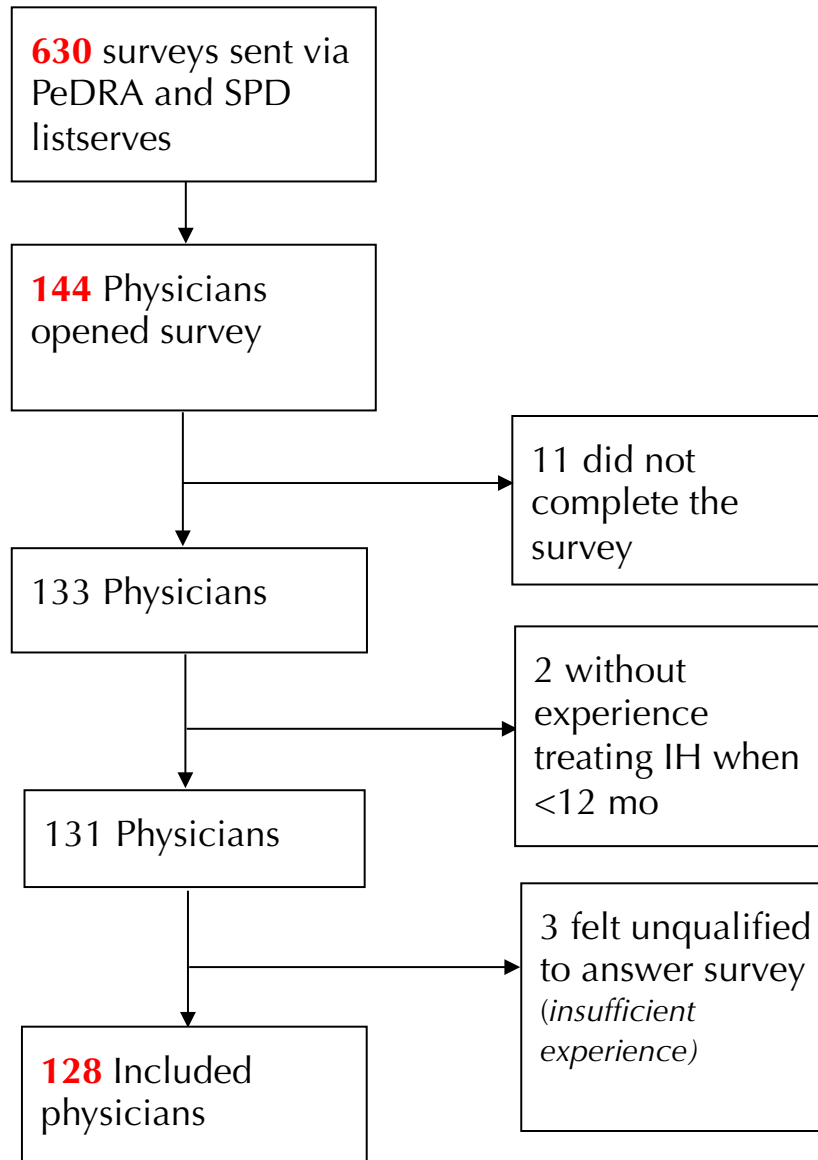
Study Questions

- Consensus to treat IHs with potential for permanent disfigurement, ulceration, or functional impairment?
- Consensus to treat IHs with minimal potential for permanent disfigurement, ulceration, or functional impairment?
- Consensus on preferred therapy for IH?
- What is the current practice for propranolol use for IH?

Survey Study

- Anonymous electronic survey sent via PeDRA and SPD
- 7 cases with IHs of varying severity based on the Hemangioma Severity Score (HSS)
- Propranolol specific questions
- Data was collected using REDCap and descriptive statistics were performed
- Consensus was defined as **>70%**

Results



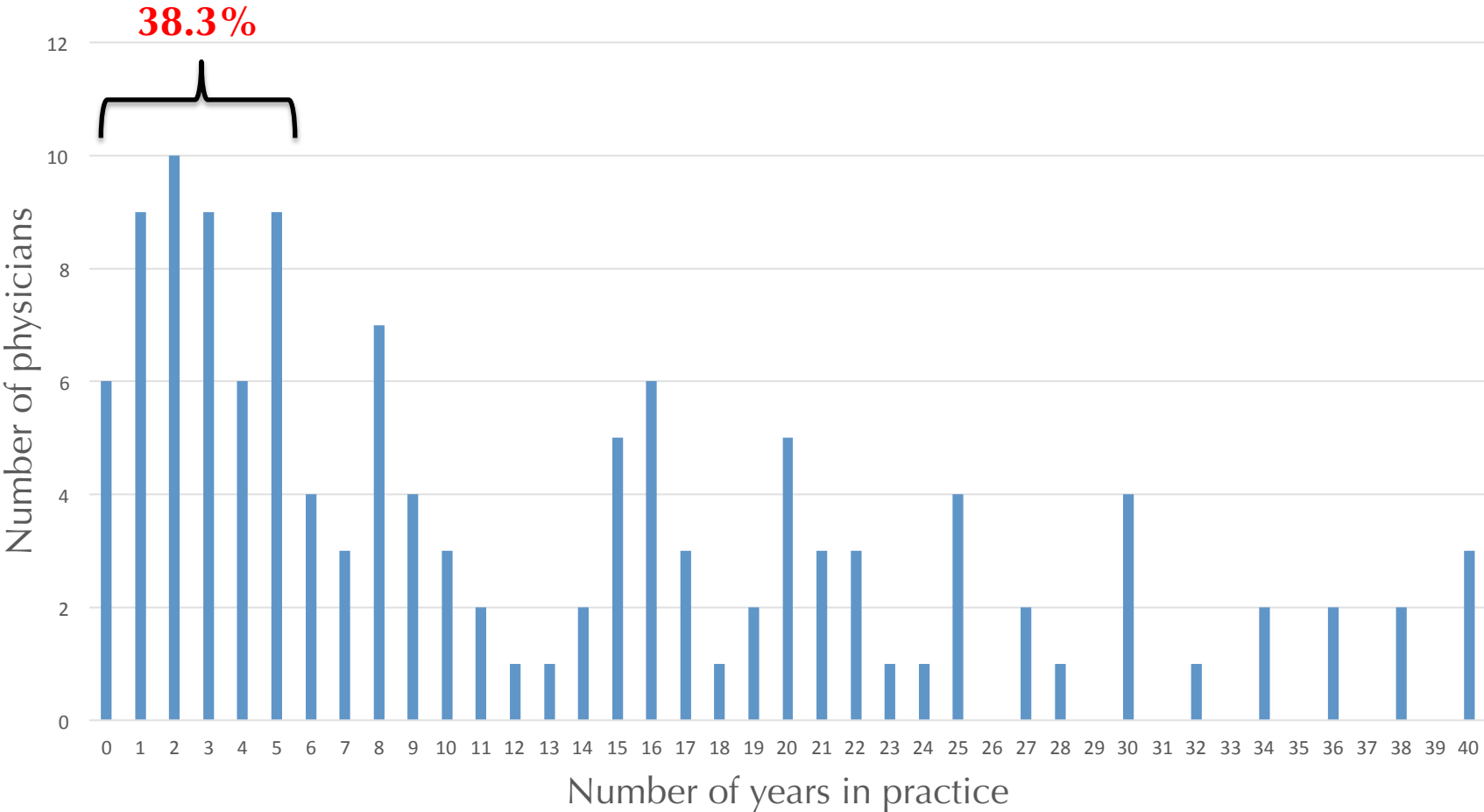
Response rate **20%**

Demographics of Participants

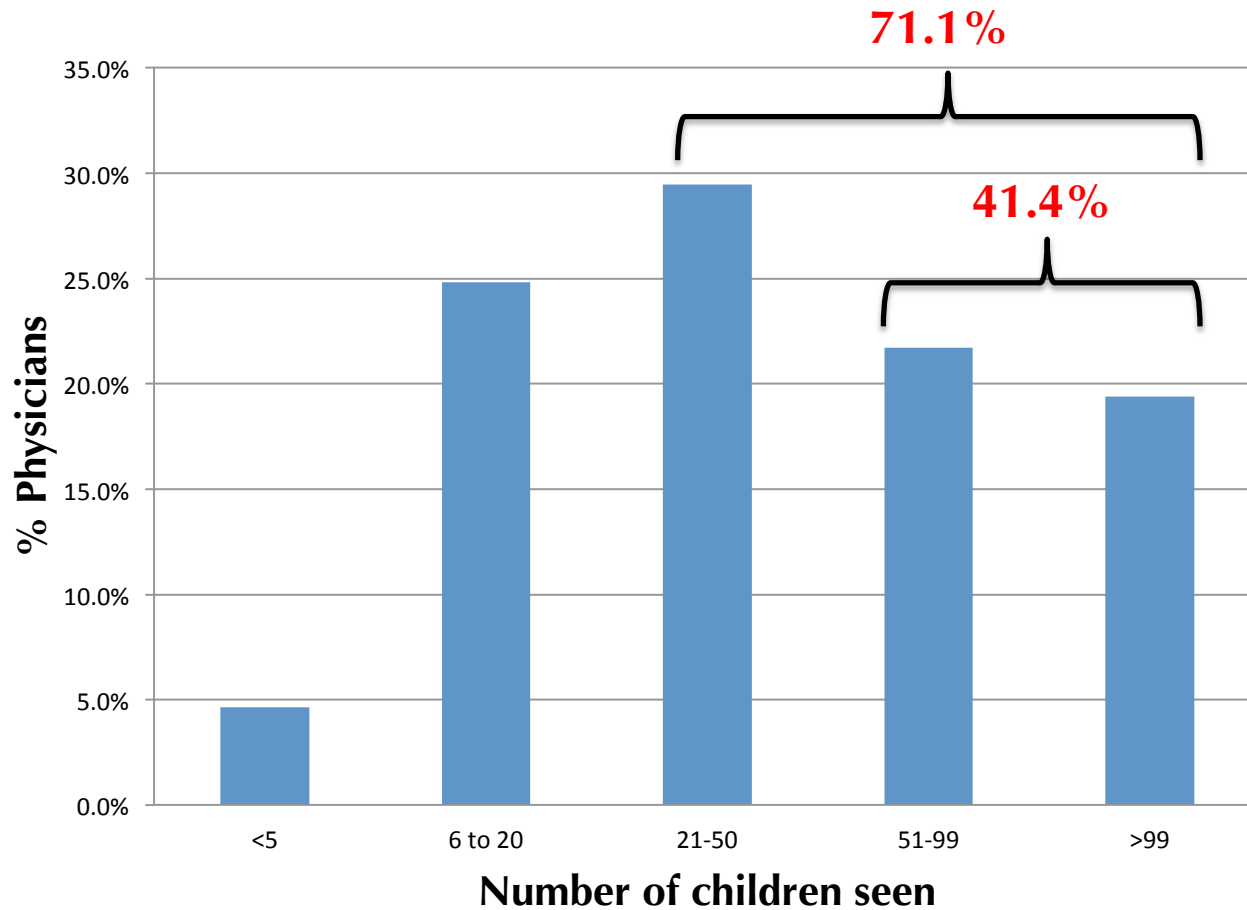
Location of Medical Practice & Board Certification

Characteristic	n (%)
Location	
USA	96 (75.0)
Canada	7 (5.5)
Mexico	7 (5.5)
Central/South America	6 (4.7)
Western Europe	3 (2.3)
Asia	4 (3.1)
Australia	5 (3.9)
Board Certification	
Pediatric Dermatology	104 (81.3)
Dermatology	109 (85.2)
Pediatrics	50 (39.1)
Other: Medical genetics	1 (0.8)
Pediatrics, Dermatology, and Pediatric Dermatology	34 (26.6)

Years Spent in Specialty Practice



Number of New Infants (children <12-months-of-age) with IH Seen in the Past 12 Months



IH Treatments Readily Accessible to Providers

Available Treatment Modalities	n (%)
Topical steroid	106 (82.2)
Topical beta-blockers	126 (97.7)
Intralesional steroids	95 (73.6)
Pulsed-dye laser	110 (85.3)
Excision	107 (82.9)
Oral steroids	113 (87.6)
Oral beta-blockers	128 (99.2)

Clinical Vignettes

Cases 1 & 2



6-month-old
Superficial IH
Peripheral face
HSS: 7



6-week-old
Superficial IH
Peripheral face
HSS: 7

Cases 3-7



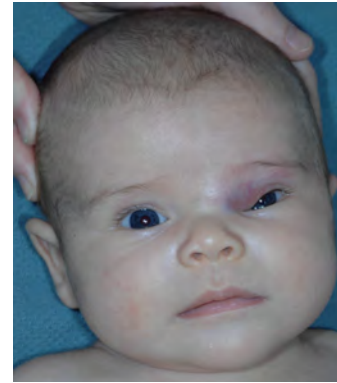
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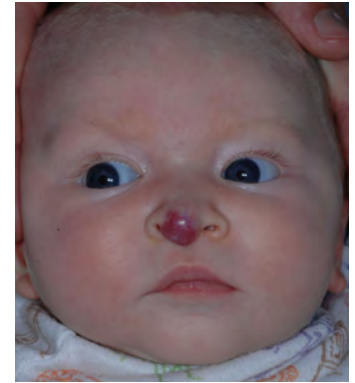
18



9



14



14

Hemangioma Severity Scores

Clinical Vignettes

Case	HSS	Treat?	Treatment	Reason for Treatment
6-month-old Superficial IH Peripheral face	7	38%: Yes 61.2%: No	91.8%: Topical BB	83.7%: Disfigurement 28.6%: Ulceration
6-week-old Superficial IH Peripheral face	7	91.4%: Yes 8.6%: No	53%: Oral BB 45.3%: Topical BB	88%: Disfigurement 51.3%: Ulceration
6-week-old Superficial IH Central face	10	98.4%: Yes 1.6%: No	39.7%: Topical BB 58.7%: Oral BB	96%: Disfigurement
6-week-old Ulcerated IH Lip	18	100%: Yes	95.3%: Oral BB	93.8%: Disfigurement 95.3%: Ulceration 90.6%: Functional impairment
6-week-old Ulcerated IH Scalp	9	93.8%: Yes 7%: No	99.2%: Oral BB	99.2%: Ulceration
6-week-old Deep IH Upper eyelid	14	100%: Yes	99.2%: Oral BB	100%: Functional impairment
6-week-old Mixed IH Nasal tip	14	100%: Yes	97.7%: Oral BB	100%: Disfigurement

Treat?



38%: Yes
61.2%: No



91.4%: Yes
8.6%: No

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The Ideal Age for Initiating Treatment of IH

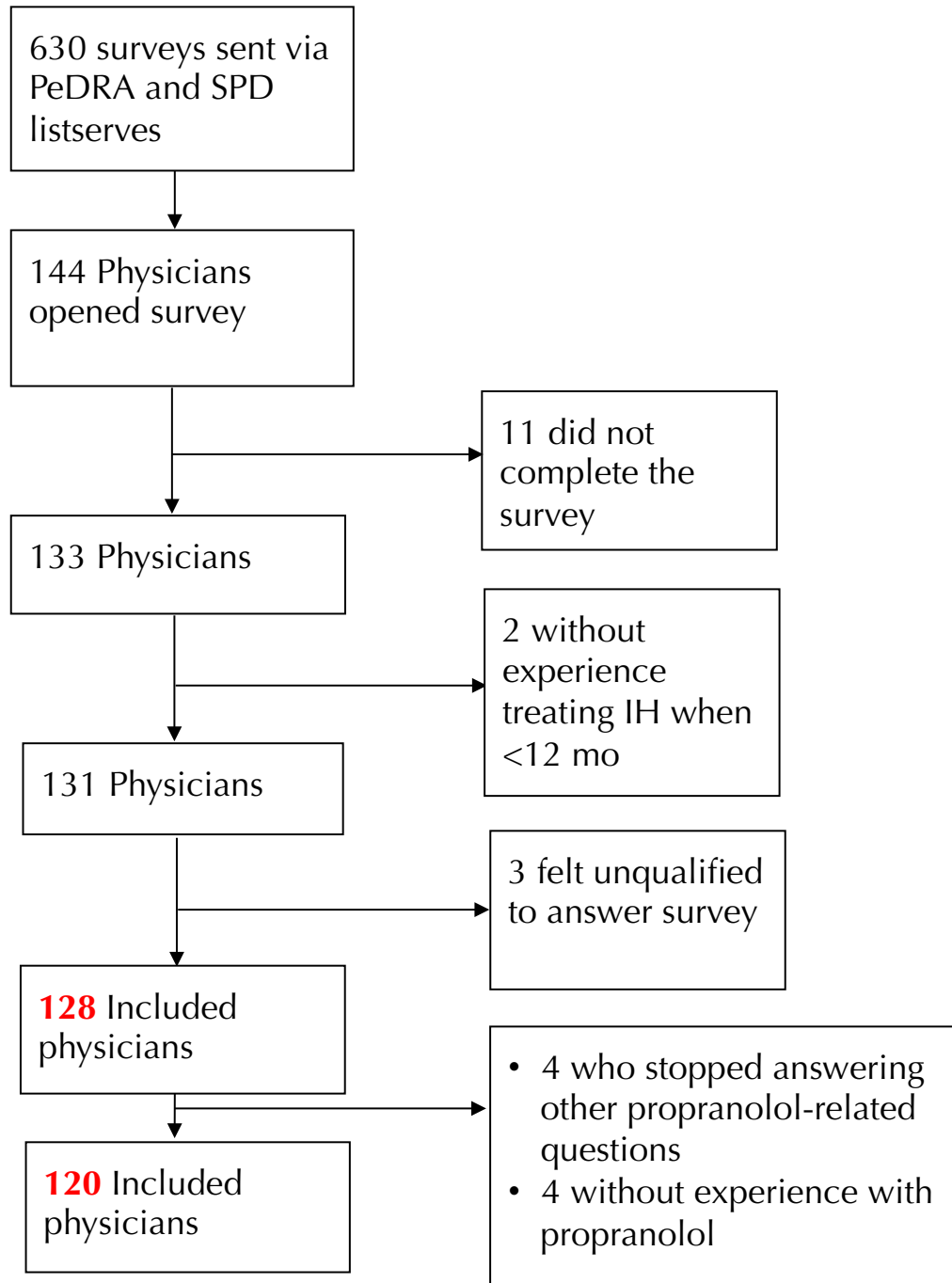
Time to start topical		
	n	%
< 2 months	97	75.8%
2-4 months	27	21.1%
4-6 months	3	2.3%
No answer	1	0.8%

} **96.9%**

Time to start systemic		
	n	%
< 2 months	88	68.8%
2-4 months	39	30.5%
4-6 months	0	0.0%
No answer	1	0.8%

} **99.3%**

Data on Use of Beta-Blockers for IH



Consensus on Propranolol Use

- Consider treatment in infants <5-weeks-of-age if:
 - **Potential/presence of ulceration**
 - **Potential/presence of functional impairment**
- History/studies obtained before propranolol initiation:
 - History: prematurity, feeding/growth difficulties, respiratory difficulties, personal history of arrhythmias/cardiac disease, and family history of cardiac disease
 - Studies: **Heart rate and BP**
- Side effect counseling:
 - Bradycardia, hypotension, hypoglycemia, bronchoconstriction, sleep disturbance, and cold hands/feet

Consensus on Propranolol Use

- Median starting dose: **1** mg/kg/day (range 0.2-2)
- Median goal dose: **2** mg/kg/day (range 1-3.5)
- When initiating in patients < 3-months-of-age, **94.5%** treat for > 6 months.
 - 58.7% treat for 6-12 months.
 - 35.8% treat for 12-18 months.
- Longer course of propranolol for:
 - **Deep or bulky IH**
 - **Rebound upon tapering of propranolol**
 - **Parotid location**
- Discontinue propranolol by **taper**.

Points without Consensus

- Screening **developmental milestones**
- Discussing **diarrhea** as side effect
- Considering treatment at <-5-weeks-of-age for presence/potential for **disfigurement**
- Anticipating longer duration of therapy for:
 - Scenarios: Large size, segmental distribution
 - Locations: Periocular, airway, lip, and nose

Summary of Findings: Consensus was Achieved!

- Treat **6-week-old** infants with IH on head + **HSS ≥ 7**
 - Oral or topical beta-blockers are 1st line
- Initiate therapy for IH at **< 2 months**
 - < 5-weeks-age for ulceration or functional impairment
- Propranolol dosing, monitoring, side effect counseling, and discontinuation
- Prolonged treatment for IH that are **bulky, rebound**, or involve the **parotid**

Future Directions

- Guide pediatricians regarding IHs of varying severity involving the head
- Updated beta-blocker guidelines for IHs
- Additional studies:
 - Treatment of older infants with IH
 - Treatment of IHs of lower severity
 - Safety/efficacy of beta-blockers in infants <5-weeks-of-age with IH
 - Which IH scenarios/locations require prolonged therapy

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Thank You

- Beta Testers
 - Dr. Yvonne Chiu
 - Dr. Deborah Goddard
 - Dr. Sophie Vadeboncoeur
 - Dr. Sophia Delano
- PeDRA Grants Committee
 - Dr. Amy Paller
 - Dr. Lawrence Eichenfield
 - Dr. Elena Pope
 - Dr. Joyce Teng
- Survey Distribution
 - Sheila Rittenberg (PeDRA)
 - Stephanie Lander (SPD)
- Co-Investigators
 - Hannah Song
 - Dr. Jennifer Reeve Zacur
 - Dr. Marilyn Liang
 - Dr. Ilona Frieden
 - Dr. Anita Haggstrom
 - Dr. Jennifer Huang



Courtesy of Dr. Marilyn Liang