In 2010, the state of melanoma treatment was severely lacking. In the 50 years prior, only three treatments were approved for melanoma, none of which were demonstrated to extend patient survival in clinical trials. That changed in March 2011 with the approval of Yervoy (ipilimumab), and in less than five years, six new drugs have been approved for treating melanoma — all of which extend survival.

The Melanoma Research Foundation (MRF) recently finished the pivotal process of reviewing grant applications and notifying successful applicants. Although many new treatment options have yielded positive results, funding cutting-edge research remains critical to the MRF’s mission for a variety of reasons:

Not everyone responds to the new drugs. Recently approved drugs help more people than ever before. However, even the most promising drug will have the desired effect on only slightly more than half of those who take it — a number of whom will see their tumors go away completely.

Some people temporarily respond to treatment. Treating advanced melanoma is rarely a matter of a single drug regimen and often patients must undergo several treatments. In some cases, drugs that work remarkably well affect only some of the tumors, or work for a period of time and then cease to be effective, often referred to as “therapy resistance.” Without an understanding of why this occurs, doctors will have little insight into how best to treat patients whose tumors start growing again.

People diagnosed with rare forms of melanoma still have few treatment options. Ocular, mucosal and acral melanoma are all rare and genetically distinct forms of melanoma. The treatments used more broadly in the melanoma field seem to have less impact on these genetic sub-types, leaving patients with these forms of the disease with fewer treatment options.

Outcomes remain poorer for people whose melanoma spreads to the brain. Melanoma is one of a few cancers that tends to spread to the brain, one of the most challenging areas to treat. Progress in radiation technology has resulted in treatments that can deliver a high level of radiation to a specific point in the brain without causing significant damage to surrounding tissue. Still, the “blood-brain barrier” remains a hindrance to attacking brain tumors with drugs that work well in other parts of the body.

Researchers do not yet have a good understanding of how melanoma starts growing and is able to spread to other parts of the body. Melanoma, like most cancers, often takes years to form. A mole that has been the same for decades might suddenly start to transform into melanoma. A melanoma might be removed, only to return years later and in a new spot. An understanding of how hibernating melanoma cells suddenly wake up and how those cells can escape their local environment will open the door to new treatments that can prevent recurrence and metastases.

When the MRF was founded in 1996, the treatment landscape was bleak. Since then, the MRF has provided funding to support research so better answers could be found. Equally significant, the MRF has offered scientific leadership to help focus the field and enhance collaboration. Through the MRF, researchers have come together to share ideas, to critique current approaches and to find ways to join forces and achieve a breakthrough.

In the face of new and ongoing challenges, the MRF continues to offer leadership. This fall, the MRF is convening a group of top-level researchers in a summit to evaluate the State of Melanoma Research. This meeting will focus on four critical areas: prevention, early detection, dormancy and metastasis and resistance to therapy/adjuvant therapy. A total of about 50 investigators have already started working on these
topics with the intent that all will leave the summit with a clear strategy for research that will address these critical issues.

Additionally, the MRF is hosting the first of a series of annual meetings specifically focused on brain metastases. This meeting will include scientists who focus on other cancers prone to brain metastases as well as those who focus on primary brain cancers. The cross-disciplinary collaboration that results from this inaugural meeting will ideally establish a rational research agenda for scientists to follow that will result in better clinical outcomes for patients who experience metastases to the brain.

For many years the melanoma community has embraced a hope built on the confidence that investment in research would, some day, result in tangible progress. Now that progress is clearly evident and hope is more real and present than ever before. Precisely for this reason, the commitment to ongoing progress through focused, intentional research is more important than ever.

In the following article you will read about the cutting-edge research the MRF funded in 2015. To learn more about the MRF’s research efforts, visit www.melanoma.org.

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2015 Research Award Recipients
The MRF has awarded funding to the following research proposals:

**TEAM AWARDS**

**Mechanisms controlling melanoma dormancy and metastatic progression**

Marcus Bosenberg, MD, PhD  
Kim Blenman, PhD  
Lucia Jilaveanu, MD, PhD  
Susan Kaech, PhD  
Yale University

The primary reason melanoma is the deadliest form of skin cancer is its ability to remain dormant in the body for extended periods of time and then suddenly form new tumors. This team intends to identify what subset of cancer cells causes this switch and evaluate potential agents that enhance or suppress the switch.

**MEK1/2-CDK4/6 targeting and acquired resistance mechanisms in NRAS melanoma**

Roger Lo, MD, PhD  
Douglas Johnson, MD  
Antoni Ribas, MD, PhD  
UCLA Medical Center

Combination therapies of MEK and CDK inhibitors have proven successful in killing melanoma with the NRAS mutation, but those cells quickly develop resistance and the tumors begin growing again. This team of researchers aims to find out why the inhibitors are initially successful and why this resistance occurs. This work will also contribute to an understanding of why some patients respond to therapy and others do not.

**ESTABLISHED INVESTIGATOR AWARD**

**Effect of the aged microenvironment on tumor dormancy**

Ashani Weeraratna, PhD  
The Wistar Institute

Melanoma patients often have a recurrence after an extended period with clean scans and no known disease. Preliminary studies indicate that as people age, the aging microenvironment can prompt tumors to re-emerge. The goal of this study is to determine if and what effect aging has on tumor dormancy. The results of this research will have multiple implications for melanoma biology and therapy.

**CAREER DEVELOPMENT AWARDS**

**Identifying and targeting melanoma cells that metastasize to the brain**

Inna Fedorenko, PhD  
H. Lee Moffitt Cancer & Research Center

The BRAF+MEK inhibitor combination therapy is promising in treating melanoma, but nearly all patients eventually develop drug resistance. The melanoma that’s left is more aggressive and has a significant chance of metastasizing to the brain. This study will look at receptors that develop this resistance in the brain and attempt to block the pathways that allow this to happen.
Unraveling RAF inhibitor action to improve therapy in BRAF-mutant melanoma

Poulikos Poulikakos, PhD  Icahn School of Medicine at Mount Sinai

Nearly half of people with melanoma have a BRAF mutation. BRAF inhibitors have proven effective in treating these patients, but the level and the duration of response to these drugs vary from patient to patient. Current inhibitors block BRAF in mutant cells, but sometimes these inhibitors actually activate BRAF in normal cells. This study will analyze the new generation of BRAF inhibitors that do not do this and, additionally, inhibit the function of the RAF compounds to determine how treatments can better target BRAF mutant tumors with less resistance and fewer toxicities.

Leveraging BET inhibition to overcome therapy resistance in melanoma

Jessie Villanueva, PhD  The Wistar Institute

Despite about 20% of people with melanoma having an NRAS mutation, developing targeted therapies for this mutation has been challenging. NRAS mutant melanomas require the oncogene c-MYC for survival, which contains the bromodomain and extraterminal domain (BET) family of proteins. This research will target the BET proteins to use them to treat melanomas that have an NRAS mutation.

MEDICAL STUDENT AWARDS

Gender differences in the molecular profile of metastatic melanoma

Sameer Gupta  Harvard Medical School

Defining novel mechanisms of genome stability in melanoma

Sanghee Lim  Boston University School of Medicine

Creation and maintenance of university associated debit cards supporting indoor tanning

Hannah Pederson  University of Colorado, Denver School of Medicine

Epigenetic silencing of PTENP1 pseudogene in melanoma: Association with PTEN expression in clinical outcomes

Brooke Rosenbaum  NYU School of Medicine

Investigation of surgical approach, lymph node drainage patterns, and sentinel node positivity on recurrence and survival in patients with melanoma of the external ear

Amanda Truong  University of Utah

Assessing metabolic and genetic regulators of metastatic dormancy/quiescence in disseminated melanoma cells using the Pulmonary Metastasis Assay (PuMA)

Eric Young  University of Kansas Medical School

Holiday Cards — On Sale Now!

You can fight the rising rates of pediatric melanoma while wishing your loved ones a happy and healthy holiday season! Purchase holiday cards designed by pediatric melanoma patients from now until October 15. Proceeds will support efforts to fight this rare form of melanoma through the MRF’s pediatric melanoma initiative. To purchase your set(s) of cards in time for the holidays, visit www.melanoma.org/understand-melanoma/pediatric-melanoma/holiday-card-contest.
MESSAGE FROM THE EXECUTIVE DIRECTOR
Call to Action to Prevent Skin Cancer

A year ago, the Surgeon General issued the first ever Call to Action to Prevent Skin Cancer. This detailed report described a cancer that is highly preventable yet is increasing in incidence. It also provided specific steps that can help turn this trend around and established target criteria to measure progress toward the ultimate goal of decreasing skin cancer.

This summer, the Centers for Disease Control and Prevention provided an update on progress toward those goals. The initiatives are too new to have demonstrated measurable impact on numbers, but the outpouring of efforts in response to the Call to Action has been impressive. Firefighters in Lakewood, CO, have adopted sun safe practices. A parent in Albuquerque, NM, established a Sun and Shade committee for her school that has resulted in kindergarten children being given wide-brimmed hats and covered, shade-providing components being considered in all playground designs. Across the country, states are beginning to control access to tanning beds by minors; in fact, some of you have been instrumental in initiating or supporting such legislation.

While we are still early in this process, the report contains some encouraging news. Data suggests that use of tanning beds by adolescents is declining across the country. This by itself could result in a reduction in the number of people diagnosed with melanoma.

Much remains to be done, but as the report says, “…with the continued effort of partners across all sectors, we can stop the increasing incidence of skin cancers.”

TIM TURNHAM
Executive Director

MRF EDUCATION UPDATE
Parent’s Guide to Prevention Poster

Children often have a lot of things they worry about — homework, snack time, seeing their friends — but protecting themselves from harmful UV rays isn’t usually one of them.

However, did you know that it only takes one blistering sunburn, especially at a young age, to more than double a person’s chance of developing melanoma later in life? Prevention is an essential tool in the fight against melanoma, and for young people, that responsibility largely rests with the parents.

With this in mind, the MRF is excited to announce its latest educational piece — the Parent’s Guide to Reducing the Risk of Melanoma poster. It is the first MRF educational item to focus on tips for parents to help reduce their child’s risk of developing melanoma later in life. This poster highlights tips beginning in infancy all the way through the teen years and also debunks some common myths and misconceptions. Take a look and order some copies for your school, pediatrician’s office or OB-GYN clinic today at www.melanoma.org/educational-materials.

MRF SCIENCE UPDATE
Post-ASCO Educational Webinar

The 51st Annual American Society for Clinical Oncology (ASCO) meeting was held May 29 through June 2 in Chicago, IL, bringing together 30,000 oncology professionals from around the world to discuss and report on new therapies, ongoing controversies and the latest groundbreaking research.

As part of the MRF’s education program, Lynn Schuchter, MD, Chief of the Hematology/Oncology Division and Leader of the Melanoma Program at the University of Pennsylvania’s Abramson Cancer Center, hosted the annual Post-ASCO Educational Webinar, which provides listeners with a brief recap of the most groundbreaking, innovative and exciting melanoma research and treatment information discussed during the meeting.

Visit the MRF’s YouTube channel to view this webinar: www.youtube.com/user/CureMelanoma.

Participants play soccer indoors at the 4th Annual Knoxville Kickin’ Cancer Soccer Tournament that raised over $4,000 dollars for the MRF.
MRF BOARD OF DIRECTORS PROFILE

Michael B. Atkins

Michael Atkins, MD is an internationally recognized doctor and researcher in cancer immunotherapy with almost 30 years of experience in the field. Mike has been increasingly involved with the MRF for over a decade, joining the Melanoma Research Foundation Breakthrough Consortium (MRFBC) in 2008, and recently assuming the role of Co-Chair of the Scientific Advisory Committee on the Board of Directors in 2014.

Early in his career, Mike realized that his major interests were in cancer immunotherapy, melanoma treatment, kidney cancer and targeted therapies, and he has worked tirelessly on researching these topics. His passion for his work has been recognized, earning him funding from the National Cancer Institute, various foundations and several pharmaceutical companies.

As one of the foremost voices in the field of melanoma and immunotherapy, Mike has authored over 300 peer-reviewed original publications and has edited three books. He has also been on the editorial board of several journals and is past president of the International Society for Biological Therapy of Cancer.

Mike currently lives in the Washington, D.C. area with his wife. In addition to his role on the MRF’s Board of Directors and Scientific Advisory Committee, Mike is the Deputy Director of the Georgetown-Lombardi Comprehensive Cancer Center and Professor of Oncology and Medicine at Georgetown University School of Medicine.

MRF EVENT UPDATE

Upcoming Wings of Hope for Melanoma Galas

The Wings of Hope for Melanoma galas are the MRF’s largest individual fundraising events, raising over one million dollars for melanoma research in 2014! After two incredibly successful spring events, three additional celebrations round out the fall series including the MRF’s first ever gala in Chicago. At each of these events, a Humanitarian Award will be presented to a medical professional making a difference in the fight against melanoma.

The MRF is excited to host the inaugural Wings of Hope for Melanoma Chicago gala on October 21, 2015, at Chicago’s Radisson Blu Aqua Hotel. Stay tuned for more information about the honoree for this event, generously presented by Radisson Blu Aqua Hotel and MassMutual Chicago.

On October 29, 2015, the 14th Annual Wings of Hope for Melanoma New York gala will take place at New York City’s Capitale. This event will recognize the work of Darrell S. Rigel, MD, founder of Rigel Dermatology Group, Medical Director, Schweiger Dermatology and Group Clinical Professor of Dermatology at New York University.

Lastly, the 3rd Annual Wings of Hope for Melanoma Philadelphia gala will take place on November 5, 2015, at The Downtown Club honoring Dr. Christine Egan, Clinical Associate Professor of Dermatology, Department of Dermatology at the University of Pennsylvania School of Medicine.

Join fellow advocates for a night of exceptional food, festivities and recognition. For more information and to register, please visit www.melanoma.org/get-involved/signature-events/wings-of-hope-galas.

MRF Board member Tony Hendrickson at the Wings of Hope for Melanoma San Francisco gala alongside the MRF’s youngest Courage Award winner, Cierra Maudlin.

MRF Board Chair Steve Silverstein with the Wings of Hope for Melanoma Denver Courage Award winners Rob Walker, Mary Hardy and Michael Deveraux and the Courage Award Presenter, Elise Barish.
MRF VOLUNTEER PROFILE

Bernadette Boyle

After moving to Florida with my husband, Joe, and our son, Joseph, who recently graduated from college, we were living a peaceful life, getting outside and enjoying the beautiful Florida weather. Our lives all changed in 2008, when Joe was diagnosed with ocular melanoma. Having been a teacher for 30 years, I knew that it was important to learn as much as possible about this disease, so I began researching it. My drive was only amplified when, in July 2011, we were given the devastating news that Joe’s melanoma had metastasized to his liver. In the four years since, it has spread to other parts of his body, but he continues to fight.

In 2014, I received an email from the Melanoma Research Foundation (MRF) asking me to participate in a walk and I was immediately interested in getting involved. In my first year, I raised over $4,000 and this year I was able to surpass my goal with a larger team raising more money — nearly $6,000 for the MRF’s CURE OM initiative! My passion for raising awareness isn’t confined to my walk participation, however. I am constantly speaking to others who never heard of this disease. The teachers at my school and I have even made every Monday “Melanoma Monday.” I am also excited about an upcoming softball tournament that I will be helping to organize in October that will bring awareness to my local community as well as raising a substantial amount of money to help with research. Over the past four years, our friends and family have become more knowledgeable because of what I have shared with them, so, in turn, they are also helping to bring awareness to this disease.

Joe has reached a point where his options are few. Over the past four years, he has explored and tried many treatments and, unfortunately, there is only one thing left for him to try. More money is needed to fund doctors to research this disease to the fullest and find a cure. After becoming involved with the CURE OM program, I have seen so many lose their battle, and it’s hard to think about Joe’s future as his options dwindle.

I have taken it upon myself to reach out to Joe’s retina specialist who did the plaque therapy, sharing with him what I have learned and offering CURE OM pamphlets from the MRF. Additionally, I have offered to reach out to anyone who is diagnosed with this disease to help them better understand their options and paths for treatment.

Through the MRF, I have learned so much and met so many wonderful people who are facing the same challenges we are. The MRF is dedicated to helping doctors and researchers explore every facet of melanoma and they are devoted to the cause. Patients of melanoma and ocular melanoma are the priority of the MRF and they are leading the way in the fight against this disease and providing hope for families like mine.

Written by Bernadette Boyle

MRF PROGRAM UPDATE

#CUREOM Unite!

All money raised by Miles for Melanoma CURE OM teams, like this one from Florida, helps fund the #CUREOM Unite! research grant.

Since its inception in 2011, the Melanoma Research Foundation’s CURE OM initiative has secured over $1 million for research that has led to unprecedented developments in the field. Funded research has helped uncover the molecular foundation and genetic mutations of ocular melanoma (OM), and researchers have screened thousands of drugs as potential targets for treatment. However, there is still a lot that can be done.

With this in mind, the MRF launched the #CUREOM Unite! campaign to raise funds for OM research. All campaign donations as well as all donations raised through CURE OM teams at Miles for Melanoma events will support the #CUREOM Unite! Career Development Research Grant. And, for the first time, the MRF will involve patients in the application review process.

As of mid-September, the MRF’s CURE OM initiative is happy to report that $53,000 has been raised as part of #CUREOM Unite!, which means the initial fundraising goal was met! All additional funds beyond the goal will increase the amount of the OM grant. Help the OM community continue its impact on the OM research field by continuing your support. Visit giving.melanoma.org/cureomunite.

TELL YOUR VOLUNTEER STORY!

Are you an MRF volunteer? Do you want a chance to share your story in a future MRF publication and inspire others to get involved? The MRF highlights volunteers who have gone above and beyond the call of duty to raise melanoma awareness through education and advocacy efforts. Share your story by going to www.melanoma.org/get-involved/volunteer-mrf/volunteer-opportunities/your-volunteer-story.

Attendees at the Les Conner Worm Burner Classic attached messages in memory of Les to black balloons that were released after the golf tournament and awards dinner.
MRF EVENT UPDATE

Miles for Melanoma Chicago

Over 800 participants made the 9th Annual Miles for Melanoma Chicago the largest and most successful yet, raising $105,000 and counting. This year’s event was presented by MassMutual Chicago whose Community Service Award Program honored the MRF with a $10,000 award thanks to the hard work of one of the MFM Chicago’s key volunteers, Manny Amezcua.

The largest of the astounding 55 teams at this year’s event, Maria’s Mob, raised over $11,000 in memory of Maria McMillion. Blythe Newton was Chicago’s top fundraiser, raising nearly $6,800 in honor of her father, Joe, who has been battling melanoma for three and a half years.

Overall, the Miles for Melanoma program has raised over $1 million this year — and there are still many races to go. Find out if there’s a race coming up in your area and learn how you can get involved by visiting www.melanoma.org/get-involved/miles-for-melanoma.

MRF EVENT UPDATE

Upcoming Events

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<td>September 25-27</td>
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<td>Grapevine, TX</td>
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<td>Pediatric Melanoma Summit</td>
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<td>September 26</td>
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<td>Gahanna, OH</td>
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<td>Miles for Melanoma Central Ohio</td>
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<td>September 26</td>
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<td>Washington, D.C.</td>
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<td>Patient Symposium</td>
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<td>September 27</td>
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<td>Cleveland, OH</td>
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<td>Miles for Melanoma Cleveland</td>
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<th>OCTOBER</th>
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<td>Nashville, TN</td>
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<td>Miles for Melanoma Music City</td>
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<td>October 3</td>
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<td>Massapequa, NY</td>
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<td>3rd Annual Benefit in Memory of Brett J. Mazimann</td>
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<td>October 10</td>
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<td>Cape May, NJ</td>
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<td>2nd Annual Driving Away Melanoma</td>
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<td>October 17</td>
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<td>Salt Lake City, UT</td>
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<td>Miles for Melanoma Salt Lake City</td>
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<td>October 17</td>
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<td>Atlanta, GA</td>
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<td>Miles for Melanoma Atlanta</td>
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<th>NOVEMBER</th>
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<td>Miami, FL</td>
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<td>Miles for Melanoma Miami</td>
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<td>November 5</td>
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<tr>
<td>Philadelphia, PA</td>
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<td>Wings of Hope for Melanoma Gala — Philadelphia</td>
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<td>November 7</td>
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<td>Phoenix, AZ</td>
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<td>Miles for Melanoma Phoenix</td>
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<td>November 8</td>
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<tr>
<td>Orlando, FL</td>
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<tr>
<td>Miles for Melanoma Orlando</td>
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<tr>
<td>November 15</td>
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<tr>
<td>San Diego, CA</td>
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<td>Miles for Melanoma San Diego</td>
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In their 8th year, Beth Castle and her Melanoma Miles for Mike team raised another $25,000 for the MRF in memory of Mike Revers.

The three- and four-year-old classes at Lemoore Preschool in Lemoore, CA, prove that you’re never too young to become an advocate at their annual bike-a-thon in honor of their teacher, Miss Mary Rhodes.
To support medical RESEARCH for finding effective treatments and eventually a cure for melanoma. To EDUCATE patients and physicians about the prevention, diagnosis and treatment of melanoma. To act as an ADVOCATE for the melanoma community to raise awareness of this disease and the need for a cure.

Find us online: www.melanoma.org

facebook.com/Melanoma.Research.Foundation  twitter.com/CureMelanoma
instagram.com/CureMelanoma  youtube.com/CureMelanoma

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