VMTH Offers Multiple Board-Certified Anesthesiologists

One of the unsung heroes of the VMTH is its Anesthesia Service. Consisting of nine anesthesiologists, eight of whom are board certified, this service is often behind the scenes, but certainly plays an important role in almost every case. The VMTH is the only veterinary hospital in Northern California with multiple board-certified anesthesiologists. This uniqueness allows the VMTH to offer a higher level of specialized care to its patients during surgery.

The service also consists of four resident veterinarians training under the faculty’s tutelage to become anesthesia specialists, as well as 18 specially-trained technicians. This team makes up possibly the largest anesthesia service of any veterinary hospital in the country, which means each patient has a designated, one-on-one anesthesia team member to watch over it throughout its surgeries and procedures, equating to safer procedures and better outcomes for both small and large animals.

Certified by the American College of Veterinary Anesthesia and Analgesia, VMTH anesthesiologists maintain the highest standard of care in pain management, anesthesia and post-operative recovery. Never is this more important than in the Large Animal Clinic during and after an equine surgery. Catastrophic injury during recovery can be much higher in equine surgeries compared to small animal surgeries. Most times, those rates have nothing to do with the initial injury or surgery, but rather with the potentially dangerous environment of recovery.

Horses will tend to find the recovery environment abnormal and try to get up too early, thereby predisposing themselves to potentially fatal injuries. VMTH anesthesiologists have developed options for more gradual, controlled recoveries under an ever-present eye. This can make all the difference for a 1,200-pound animal not prone to being on the ground following surgery.

Whether it’s a small or large animal being anesthetized at the VMTH, each patient is offered high quality, individualized care.

New VMTH Equipment Greatly Reduces Diagnostic Time

The VMTH recently acquired a highly-advanced piece of diagnostic equipment that will reduce the time for identification of bacterial and fungal organisms after they have been grown in culture from 2-4 days down to less than one hour. The matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometer is being embraced throughout the healthcare community as the most advanced diagnostic tool for rapid identification of organisms.

MALDI-TOF works by generating a protein mass profile of an unknown organism that serves as a “fingerprint” for that particular organism. After a “fingerprint” is generated by the MALDI-TOF, it is compared to a database containing libraries of thousands of profiles. It then quickly identifies the unknown organism based on its closest match in the library. New libraries can be added to the current database and shared with other veterinary diagnostic laboratories and researchers. Increased library coverage will increase the range of organisms that can be identified accurately and quickly.

MALDI-TOF has proven to be a fast and cost-effective method in comparison to conventional microbiological diagnostics. Currently, only four other veterinary schools (Iowa State, Kansas State, Texas A&M and Cornell) employ the MALDI-TOF mass spectrometry technology in their diagnostic laboratories.
VMTH Offers Exclusive EPM Tests

A s the recognized importance of equine protozoal myeloencephalitis (EPM) grows throughout the country, SVM scientists have developed exclusive testing to more accurately diagnose the disease. Our veterinarians were not satisfied with the standard testing available, and spent the past decade developing and successfully validating an improved diagnostic tool for EPM.

The SarcoFluor™ and NeoFluor™ tests created at UC Davis are immunofluorescent antibody tests for both of the known causative agents of EPM (Sarcocystis neurona and Neospora hughesi). These tests provide a quantitative indication of EPM infection and provide greater sensitivity and specificity than the Western immunoblot test on serum samples. The SVM's tests also reduce the necessity to obtain cerebrospinal fluid in order to screen for antibodies against the two protozoal agents.

A recent SVM study showed why it is necessary to run both of these tests to accurately diagnose the cause of EPM in an individual horse. Dr. Nicola Pusterla led a team of researchers who discovered that EPM caused by both parasites is widespread throughout the United States. After obtaining a total of 3,123 diagnostic submissions from 49 states, the faculty determined that horses from 42 states were affected by parasites causing EPM. Horses in 24 states tested positive for antibodies against Neospora hughesi and Sarcocystis neurona. Horses from 17 states tested positive for antibodies against Sarcocystis neurona only, while horses in one state tested positive for antibodies against Neospora hughesi only. As these results show a widespread distribution of the parasites causing EPM, horse owners and practitioners should test EPM-suspect horses for antibodies against both parasites.

Innovative Cancer Treatment

In July, Barkley returned for his 4-month, post-treatment study recheck. His CT scan revealed a very positive response to the cryoablation. The bulk of the tumor was no longer visible on the scan, and Dr. Steffey was highly encouraged by the results. As this is one of the first applications of this nasal study, it is difficult to predict how long this positive response will be maintained, but initial observations of the cryoablation indicated success.

In April, Barkley returned to the VMTH for his 1-month, post-treatment study recheck. His CT scan revealed a very positive response to the cryoablation. The tumor by freezing it with cryoprobes. Dubbed “transnasal cryoaablution,” this option for treating Barkley’s tumor does not require anesthesia, but does not require any surgical incisions. To date, observed side effects associated with the procedure have been minimal. Depending upon the individual patient’s needs, it may be done as a one-time procedure, or as multiple treatments. This seemed a better option than more than a dozen radiation treatments.

A minimum of two to three freezing cycles (all done in the same session) are recommended to provide enough stress for optimal cell death. Barkley’s tumor was frozen with four consecutive freezing cycles (all done in the same session) are recommended to provide enough stress for optimal cell death. Barkley’s tumor was frozen with four consecutive freezing cycles. Dubbed “transnasal cryoaablution,” this option for treating Barkley’s tumor does require anesthesia, but does not require any surgical incisions.

To date, observed side effects associated with the procedure have been minimal. Depending upon the individual patient’s needs, it may be done as a one-time procedure, or as multiple treatments. This seemed a better option than more than a dozen radiation treatments.

A recent SVM study showed why it is necessary to run both of these tests to accurately diagnose the cause of EPM in an individual horse. Dr. Nicola Pusterla led a team of researchers who discovered that EPM caused by both parasites is widespread throughout the United States. After obtaining a total of 3,123 diagnostic submissions from 49 states, the faculty determined that horses from 42 states were affected by parasites causing EPM. Horses in 24 states tested positive for antibodies against Neospora hughesi and Sarcocystis neurona. Horses from 17 states tested positive for antibodies against Sarcocystis neurona only, while horses in one state tested positive for antibodies against Neospora hughesi only. As these results show a widespread distribution of the parasites causing EPM, horse owners and practitioners should test EPM-suspect horses for antibodies against both parasites.

The SarcoFluor™ and NeoFluor™ tests created at UC Davis are immunofluorescent antibody tests for both of the known causative agents of EPM (Sarcocystis neurona and Neospora hughesi). These tests provide a quantitative indication of EPM infection and provide greater sensitivity and specificity than the Western immunoblot test on serum samples. The SVM’s tests also reduce the necessity to obtain cerebrospinal fluid in order to screen for antibodies against the two protozoal agents.

A recent SVM study showed why it is necessary to run both of these tests to accurately diagnose the cause of EPM in an individual horse. Dr. Nicola Pusterla led a team of researchers who discovered that EPM caused by both parasites is widespread throughout the United States. After obtaining a total of 3,123 diagnostic submissions from 49 states, the faculty determined that horses from 42 states were affected by parasites causing EPM. Horses in 24 states tested positive for antibodies against Neospora hughesi and Sarcocystis neurona. Horses from 17 states tested positive for antibodies against Sarcocystis neurona only, while horses in one state tested positive for antibodies against Neospora hughesi only. As these results show a widespread distribution of the parasites causing EPM, horse owners and practitioners should test EPM-suspect horses for antibodies against both parasites.

CASE OF THE MONTH – BARKLEY

UC Davis Veterinarian Develops Innovative Cancer Treatment

T hings were not looking good for Barkley in March 2012. This 9-year-old male chocolate Labrador retriever was diagnosed with nasal adenocarcinoma, a cancer inside his nasal cavity. After a year of treatment with chemotherapy by his referring veterinarian, Barkley's clinical signs were progressing and he was brought to the VMTH for a novel treatment offered by Dr. Michele Steffey, a leading cancer surgeon in the Soft Tissue Surgery Service.

Barkley was evaluated at the VMTH in March 2013. Luckily, his nasal tumor had not progressed beyond his nose, and his owner discussed options with Dr. Steffey. She was offered radiation therapy but chose to enroll Barkley in Dr. Steffey's new nasal tumor clinical trial instead. This new approach to treating nasal tumors involves a minimally-invasive method of killing the tumor by freezing it with cryoprobes. Dubbed “transnasal cryoaablution,” this option for treating Barkley's tumor does not require anesthesia, but does not require any surgical incisions.

To date, observed side effects associated with the procedure have been minimal. Depending upon the individual patient's needs, it may be done as a one-time procedure, or as multiple treatments. This seemed a better option than more than a dozen radiation treatments.

A minimum of two to three freezing cycles (all done in the same session) are recommended to provide enough stress for optimal cell death. Barkley's tumor was frozen with four consecutive applications over the span of about 45 minutes. He recovered well with only predicted, mild nose bleeds. Dr. Steffey was preliminarily pleased with what the cryoablation achieved. Multiple rechecks would be required to properly evaluate Barkley’s on-going prognosis.

In November, Barkley returned for his post-treatment study recheck. His CT scan revealed a very positive response to the cryoablation. The bulk of the tumor was no longer visible on the scan, and Dr. Steffey was highly encouraged by the results. As this is one of the first applications of this nasal study, it is difficult to predict how long this positive response will be maintained, but initial observations of the cryoablation indicated success.
VMTH Offers Exclusive EPM Tests

A recent svm study showed why it is necessary to run both of these tests to accurately diagnose the cause of EPM in an individual horse. Dr. Nicola Pusterla led a team of researchers who discovered that EPM caused by both parasites is widespread throughout the United States. After obtaining a total of 3,123 diagnostic submissions from 49 states, the faculty determined that horses from 42 states were affected by parasites causing EPM. Horses in 24 states tested positive for antibodies against Neospora hughesi and Sarcocystis neurona. Horses from 17 states tested positive for antibodies against Sarcocystis neurona only, while horses in one state tested positive for antibodies against Neospora hughesi only. As these results show a widespread distribution of the parasites causing EPM, horse owners and practitioners should test EPM-suspect horses for antibodies against both parasites.

A horse inflicted with the virus that causes EPM may appear unbalanced. A horse with EPM on its leg, showing the swelling and inflammation.

Welcome

CASE OF THE MONTH – BARKLEY

Tumors of the head and neck are a common finding in veterinary medicine. Barkley was evaluated at the VMTH in March 2013. Luckily, his nasal tumor had not progressed beyond his nose, and his owner discussed options with Dr. Steffey. She was offered radiation therapy but chose to enroll Barkley in Dr. Steffey's new nasal tumor clinical trial instead. This new approach to treating nasal tumors involves a minimally-invasive method of killing the tumor by freezing it with cryoprobes. Dubbed “transnare cryoablation,” this option for treating Barkley's tumor does require anesthesia, but does not require any surgical incisions. To date, observed side effects associated with the procedure have been minimal. Depending upon the individual patient's needs, it may be done as a one-time procedure, or as multiple treatments. This seemed a better option than more than a dozen radiation treatments.

A minimum of two to three freezing cycles (all done in the same session) are recommended to provide enough stress for optimal cell death. Barkley's tumor was frozen with four consecutive applications over the span of about 45 minutes. He recovered well with only predicted, mild nose bleeds. Dr. Steffey was preliminarily pleased with what the cryoablation achieved. Multiple rechecks would be required to properly evaluate Barkley's on-going prognosis.

In April, Barkley returned to the VMTH for his 1-month, post-treatment study recheck. His CT scan revealed a very positive response to the cryoablation. The bulk of the tumor was no longer visible on the scan, and Dr. Steffey was highly encouraged by the results. As this is one of the first applications of this nasal study, it is difficult to predict how long this positive response will be maintained, but initial observations of the cryoablation indicated success.

In July, Barkley returned for his 4-month, post-treatment study recheck. His CT scan showed no evidence of nasal tumor regrowth and no evidence of the cancer spreading to his lungs or lymph nodes. He was recovering well, and had not experienced any significant complications since the procedure. Dr. Steffey is pleased with his progress and optimistic about his future. Barkley is currently enjoying life and doing very well at home, and will return to the VMTH in November for another recheck.

VMTH EMPLOYEES

Thanks and Praise from Grateful Clients

“Words can't express how thankful I am for everything all of you have done for saving Sparky's life. The doctors, nurses and staff at the VMTH were amazing in helping Sparky feel safe, comfortable and loved.”

~ Lourdes Lazcano, West Sacramento, California
From The Director’s Corner

Welcome to the October issue of VMTH View. I hope you all enjoyed the summer, and are excited to begin another academic year. As our veterinary expertise grows, I am pleased to see that fuel our caseload growth. You continue to expand your services with new innovations and approaches to veterinary medicine, and the end results show great strides toward better, faster and less-invasive medicine. Our clients are taking notice, also. Their praise for your work continues to grow, and they are spreading the good word throughout our communities.

This issue provides a great example of the breadth of services available at the VMTH, and the level of expertise displayed by our faculty and staff. From exclusive tests and novel cancer treatments to top-of-the-line equipment and board-certified care, these articles display why animal owners look to us for the best in veterinary medicine. This level of care is the reason why we attract the best of the best in students and resident veterinarians. I commend all of you for bringing your areas of specialty care to new heights.

I’d like to recognize Harold Davis, staff manager of the Emergency & Critical Care Service, for another well-deserved award. Harold was recently chosen as the recipient of the Specialty Technician of the Year Award by the Academy of Veterinary Emergency and Critical Care Technicians. Harold continues to go above and beyond in his goal of providing the best possible patient care and training to technicians.

Congratulations, Harold! Enjoy this issue. None of these exciting advances would be possible without your hard work.

Regards,

Dr. W. David Wilson, BVMS, MS, Hon DACVIM
Director, William R. Pritchard VMTH

Did You Know?

… that more than 980 spays and neuters were performed at the Gourley Surgical Center last year?

… that horses are not indigenous to Australia? They were first brought to the continent in 1788 when the British First Fleet’s manifest included, among other animals, seven horses.

… that alpacas and llamas can be cross-bred? Their offspring is called a huacario.

New VMTH Equipment Greatly Reduces Diagnostic Time

The VMTH recently acquired a highly-advanced piece of diagnostic equipment that will reduce the time for identification of bacterial and fungal organisms after they have been grown in culture from 2-4 days down to less than one hour. The matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometer is being embraced throughout the healthcare community as the most advanced diagnostic tool for rapid identification of organisms.

MALDI-TOF works by generating a protein mass profile of an unknown organism that serves as a “fingerprint” for that particular organism. After a “fingerprint” is generated by the MALDI-TOF, it is compared to a database containing libraries of thousands of profiles. It then quickly identifies the unknown organism based on its closest match in the library. New libraries can be added to the current database and shared with other veterinary diagnostic laboratories and researchers. Increased library coverage will increase the range of organisms that can be identified accurately and quickly.

MALDI-TOF has proven to be a fast and cost-effective method in comparison to conventional microbiological diagnostics. Currently, only four other veterinary schools (Iowa State, Kansas State, Texas A&M and Cornell) employ the MALDI-TOF mass spectrometry technology in their diagnostic laboratories.

VMTH Offers Multiple Board-Certified Anesthesiologists

One of the unsung heroes of the VMTH is its Anesthesia Service. Consisting of nine anesthesiologists (eight of whom are board certified), this service is often behind the scenes, but certainly plays an important role in almost every case. The VMTH is the only veterinary hospital in Northern California with multiple board-certified anesthesiologists. This uniqueness allows the VMTH to offer a higher level of specialized care to its patients during surgery.

The service also consists of four resident veterinarians training under the faculty’s tutelage to become anesthesia specialists, as well as 18 specially-trained technicians. This team makes up possibly the largest anesthesia service of any veterinary hospital in the country, which means each patient has a designated, one-on-one anesthesia team member to watch over it throughout its surgeries and procedures, equating to safer procedures and better outcomes for both small and large animals.

Certified by the American College of Veterinary Anesthesia and Analgesia, VMTH anesthesiologists maintain the highest standard of care in pain management, anesthesia and post-operative recovery. Never is this more important than in the Large Animal Clinic during and after an equine surgery. Catastrophic injury during recovery can be much higher in equine surgeries compared to small animal surgeries. Most times, those rates have nothing to do with the initial injury or surgery, but rather with the potentially dangerous environment of recovery.

Horses will tend to find the recovery environment abnormal and try to get up too early, thereby predisposing themselves to potentially fatal injuries. VMTH anesthesiologists have developed options for more gradual, controlled recoveries under an ever-present eye. This can make all the difference for a 1,200-pound animal not prone to being on the ground following surgery.

Whether it’s a small or large animal being anesthetized at the VMTH, each patient is offered high quality, individualized care.