

# Separations

## Reimbursement

Knowledge can earn you dollar\$ and cent\$

By: Bonny Champagne, Marketing Product Specialist

Could your laboratory benefit from the realization of additional Medicare reimbursement dollars? Are you aware that a simple electrophoretic assay such as Immunofixation can bring as much as \$52.71 per test into your lab?

Do you remember electrophoresis testing as being difficult and time-consuming? Well, things have certainly changed and Sebia offers a walk-away electrophoresis instrument as a solution for your laboratory. Because the HYDRASYS® requires minimal attention and maximum timesavings, your laboratory can perform electrophoresis testing in-house and gain or maintain reimbursement dollars!

Medicare reimburses most laboratory services individually as identified by the appropriate CPT code. Laboratory tests are billed directly to Medicare by the laboratory or physician performing the test.

Pathologists or other qualified physicians are also reimbursed by Medicare for the interpretation of specific electrophoretic assays. A -26 modifier, placed after the assay's CPT code, is used to indicate and bill for an electrophoretic interpretation service. Reimbursement ranges for a physician interpretation are from \$16.60 to \$21.50 depending on the geographic location of the provider.

Are you familiar with 2003 Medicare reimbursement amounts for the most common electrophoretic assays plus professional interpretation? Please refer to Table 1; you may be surprised!

Electrophoretic Assay	CPT Code: Assay	National Mode: Reimbursement	CPT Code: Assay + Interpretation	TOTAL Reimbursement Range
Protein	84165	\$15.01	84165-26	\$31.61-\$36.51
Immunofixation	86334	\$31.21	86334-26	\$47.81-\$52.71
Hemoglobin	83020	\$17.99	83020-26	\$34.59-\$39.49
Lipid Separation	83715	\$15.73	83715-26	\$32.33-\$37.23

Table 1

Now, let's take a look at an example of an organization that put their creative minds together to increase the level of patient care and hospital profits...

**Memorial Hospital in Chattanooga, TN** has been a Sebia customer since April 2000. This hospital laboratory came to two realizations concerning electrophoresis testing: too much money was going out of the door with each outsourced test AND the turnaround time was not in-line with exceptional patient care. After reviewing different electrophoresis vendors, the laboratory staff decided on Sebia's semi-automated HYDRASYS® instrument. With this new automation, Memorial has developed into a regional electrophoresis lab for other providers as well, processing specimens for over 350 to 400 physician offices. On-site electrophoresis testing now enables Memorial's lab staff to provide a two to four-day turnaround time, much more in-line with the level of patient care and physician satisfaction for which Memorial strives!

Table 2 represents a laboratory in Los Angeles, CA currently sending out electrophoresis testing. Additional projected revenue of \$14,419 annually could be realized if protein electrophoresis and immunofixation was brought back into the laboratory with the use of walk-away instrumentation!

Protein Electrophoresis tests	12/week
Immunofixation tests	5/week
Current send out cost	\$12,636
Projected Annual Costs (in-house testing)	\$8,788
Projected Annual Reimbursement	\$23,206
Projected Annual Revenue	\$14,419

Table 2

**Are you interested in learning how additional Medicare reimbursement dollars can impact your laboratory?** Please complete the Reimbursement Info Card in full. In return, you will receive a customized report to include Projected Annual Revenue for your laboratory with various options concerning instrumentation.

Please keep a lookout for the next issue of Sebia's Separations, which features another Sebia customer and real life example: A Michigan laboratory that has been called "the nation's most unique collaborative regional laboratory organization".<sup>ii</sup>

<sup>i</sup> Individual cases will vary (increase or decrease) depending on different variables that account for such projected values.  
<sup>ii</sup> Smart, June. Hospitals in Michigan Build Unique Shared Lab. The Dark Report, Volume IX, Number 15.

issue 1 vol. 4

sebia®  
electrophoresis

## Ask Borek (continued)

### Borek's A:

Animals (domestic and farm) have essentially the same proteins as humans do and their abnormalities are generally associated with the same pathological or physiological conditions as in humans. Saying that, you cannot expect (using identical gels, conditions and procedures) the mobilities, patterns of serum proteins and compositions of individual fractions would match those in humans.

To start running animal sera, I would recommend using the same products and protocols as intended for human use. Then, if needed, adjust sample concentration. Also, High Resolution could provide more desirable separations than 5- or 6-zone separations. Whatever test or its modification you would use for the animals, normal ranges and patterns would need to be established for each individual species.

A useful reference containing a chapter on "Immunologic and Plasma Protein Disorders" that includes electrophoresis techniques, gives some normal ranges and electrophoresis patterns: M.D. Willard, H. Tvedten, G.H. Turnwald: "SMALL ANIMAL CLINICAL DIAGNOSIS BY LABORATORY METHODS" 3rd edition, 1989, W.B. Saunders Co.

Are you interested in learning more about Sebia's Immunofixation or Bence Jones Protein assays? Please circle 1 4 2 (IF) or 1 4 3 (BJP) on your Reader Response Card. Additionally, please circle 1 4 4 if you are interested in performing electrophoresis testing on animal samples.

## Sebia - "In Control!"

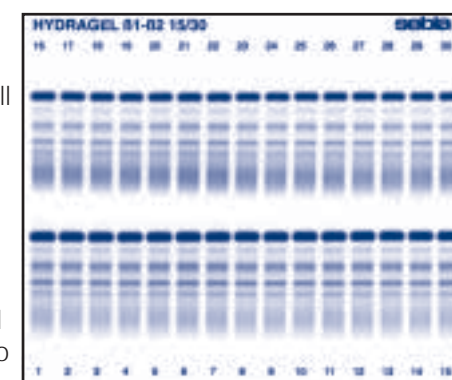
Sebia is pleased to now offer Normal and Hypergamma protein controls, as well as Hemoglobin AFSC control. Concerning protein controls, complement degrades so quickly that it is the one protein not usually seen in control material. That is, until now! Sebia's unique control manufacturing process preserves complement, as well as the other serum components, presenting a complete serum profile. The complement fraction can be easily identified when run on Sebia's Hydragel® B1 + B2 Protein assay, which provides higher resolution in the beta zone. This allows clear separation of the complement and transferrin components. The Normal and Hypergamma controls are designed to be run on either agarose gels or Sebia's CAPILLARYS™ system. In addition to proteins, these controls are also value assigned for Sebia's Lipoprotein and Cholesterol assays, and Apolipoprotein Laurel rocket gels.

Hemoglobin controls have always been a challenge in the past, but no longer! Sebia's new hemoglobin control provides very nice resolution of normal hemoglobins A & F and abnormal hemoglobins S & C. The Hb AFSC control is designed for use with Sebia's Hydragel Hemoglobin and Hydragel Acid Hemoglobin assays.

The protein and hemoglobin controls are provided in a stabilized lyophilized form and once reconstituted, can be aliquoted and frozen for future use. This preserves their integrity for an extended period of time, thus reducing costs and eliminating waste!

Part Number	Control	Configuration
4785	Agarose/CAPILLARYS Normal Control	5 x 1ml
4787	Agarose/CAPILLARYS Hypergamma Control	5 x 1ml
4791	Hb AFSC Control	0.5mL

For more information on Sebia's controls, please circle the following numbers on your Reader Response Card: Normal & Hypergamma protein control - 1 4 6; Hemoglobin AFSC control - 1 4 7.



Hydragel® B1 + B2 15/30:  
Normal Control pictured 1-15  
Hypergamma Control pictured 16-30

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Clearly Superior...

Automatically Better™



Q & A

Since the inception of "Ask Borek", Dr. Janik has received many interesting electronic inquiries concerning electrophoresis from you - our customers! Perhaps the following examples of Q & A he received and answered will help you find a solution to a challenge that is currently on your mind or right around the corner. Either way, please keep those questions coming!

bands. Unless the glomerular filtration stage is damaged, complete immunoglobulins do not show in urine (no heavy chains detected by IF).

Q from Hawaii:

We have a case in which the serum and urine IF show only a monoclonal light chain. Is this a possibility and what is the next best course of action?

Borek's A:

Yes, you can see a "lonely" monoclonal free light chain both in serum and urine. However, it is prudent to test the serum both with anti IgD and IgE antisera (to confirm/eliminate rare presence of monoclonal IgD or IgE) and with appropriate free light chain antiserum (to confirm/eliminate presence of free light chain). Lonely free light chain can be seen in serum, e.g., in free light chain myeloma. The latter condition, light chain deposition disease (LCDD) and amyloidosis generally could be associated with free light chain in urine.

Q from Texas:

(Refer to Image 2)

Urine IF on an 82-year-old patient with renal failure thought secondary to diabetes seems to show a monoclonal kappa light chain. However, the band is rather wide although the reference track exhibits a sharp band. The serum electrophoresis is normal without hypogammaglobulinemia.

Borek's A:

Looking at the gel, it is definitively a Kappa Bence Jones Protein (BJP). The reason for the greater width of the Kappa band is the rather high concentration of the BJP. Do you have any quantifications? What is important and makes this band monoclonal is that both boundaries (anodic and cathodic) are very sharp. Which monoclonal protein was found in the serum? If none, it could be LCDD (light chain deposition disease) or possibly amyloidosis

that could be responsible for the renal failure. In the latter two conditions, the levels of FLC are generally low in the serum. LCDD and amyloidosis may or may not be associated with myeloma or other lymphoproliferations.



Image 2

Q from North Carolina:

Approximately what percentage of positive cryoglobulins would you expect to see in this area of the country?

Borek's A:

Unfortunately, I am not aware of any statistics concerning the occurrence of cryoglobulins. Perhaps, you may get an approximate, relative picture by considering the conditions with which the cryoglobulins are associated. Please refer to Part III/1 of my guide (which is provided as a value added to all Sebia customers) dealing with cryoglobulins. Also searching the Internet for focus groups or societies on cryoglobulinemia might lead to a source of such information. (NOTE: Treatment of cryoglobulin sera, isolation of cryoglobulins for identification of the components, classification of cryoglobulins and clinical significance will be addressed in the next "Ask Borek" column.)

Q from California:

I am interested in animal/veterinary applications, in particular with Protein, CK & LD isoenzymes, lipoproteins, and possibly Alkaline Phosphatase isoenzymes. Our main species would be rat, dog, pig and non-human primates. Are there any particular modifications that need to be done to use these kits in animals? Are there any differences in delineation of the fractions for the assays mentioned above?

continued on back



Lab Makes Great Strides In Reducing Steps  
Wisconsin laboratory boosts efficiency forty percent with Sebia system!

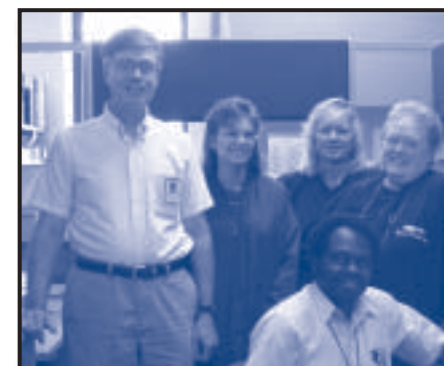
In an era that celebrates individualism, it's hard to imagine an organization wanting people to act exactly alike. But then again, most organizations don't hold the fate of individual lives in their hands.

General Medical Laboratories (GML) in Madison, Wisconsin knew the potential downside of manual electrophoresis processing — it left too much to personal interpretation. "While our technologists have always done an outstanding job, there's no way to avoid the fact that it's virtually impossible to ensure each person performs a process in precisely the same way," explains Dr. James Thornberry, clinical pathologist, noting that this was only one of the lab's key challenges. "Not only did we need to provide for ultimate standardization, we also needed to reduce the time it was taking to complete the electrophoresis process."

"These days, in the rare event that we have to repeat a test...it's because of the case itself as opposed to issues of test quality."

-Dr Thornberry, Pathologist  
General Medical Laboratory

Operating as part of the Meriter Hospital family, GML provides service for the dynamic healthcare organization and serves as a reference lab for the surrounding region. With roughly eighty samples arriving at the facility for electrophoresis each month, it made sense to put on an automated system. A nearby hospital had implemented the Sebia HYDRASYS® system, so Dr. Thornberry and his colleagues decided to evaluate the instrument — along with competing systems — for themselves.



Standing left to right: James Thornberry, M.D., Cynthia Fiore, Linda Biesenstein, Norma Merriam. Sitting: Henry Steady

Sebia's HYDRASYS solution excels in several areas, according to Immunology Supervisor Sue Erickson. "The HYDRASYS system requires fewer steps to process urines — which meant we could conserve valuable time. It was such an easy instrument to use; it was almost a no-brainer," Erickson says. "And the quality of Sebia's gels is much better than what we observed with the other systems. We felt this was the best decision for us."

The HYDRASYS expedites the multiple steps involved in electrophoresis and immunofixation, automatically handling everything from sample application to migration to incubation, staining, destaining and drying. The system is truly walkaway; the technologist simply loads samples in batches of either seven or fifteen, then chooses the program and starts the process. Staining is every bit as easy: gels are placed onto the staining rack and the process is initiated with the push of a button. Completing a batch from start to finish takes roughly 30 minutes. What's more, the system allows for two types of gels to be processed simultaneously, giving efficiency an extra boost.

Erickson estimates that since going live on the HYDRASYS, the lab has reduced the electrophoresis processing time by forty percent. "By not having to manually take the sample from step to step, we can spend that time taking care of other tasks in the interim — tasks such as fulfilling the testing in the core chemistry lab." She says that having the HYDRASYS on board has also enabled the lab to effectively redistribute assignments because electrophoresis has been rescheduled from five days a week to three.

As for the issue of consistency, the lab reports positive results with the HYDRASYS. Dr. Thornberry notes an improvement in gel quality since switching to Sebia. "The gels we were using previously weren't as clear — we'd often have problems with lanes bleeding into one another," he notes. "At times we would have to repeat tests because of inconsistent test application or hard to read gels. These days, in the rare event that we have to repeat a test, it's because the case itself is difficult as opposed to issues of test quality." He adds that the lanes on the Sebia gels are a little smaller than competing products, but the accompanying backlit magnifier assists with reading the bands directly from the gel. "Besides, the clarity of the gel more than makes up for the small size."

While GML's decision to automate electrophoresis was all about being "hands off," one aspect of Sebia that has the lab abuzz is the hands on approach of their Sebia technical representative. "Having this resource accessible to us is a major strong point," says Technologist Linda Biesenstein. "Our (technical) Representative has been invaluable; available to help us revamp our processes, and she also conducted an educational seminar to help ensure proper interpretation of the gels. And while we rarely have problems with the instrument, she's readily available to resolve technical issues — which is a critical need in this environment."

What if the HYDRASYS suddenly vanished and lab went back to manual processing? Erickson shudders at the thought. "We'd be spending more time standing around, ushering gels from step to step and getting less done. We'd be re-doing more tests because of unsatisfactory quality," she says. "Now that we've seen how Sebia has enhanced our operations, we couldn't imagine doing electrophoresis any other way."

"Our (technical) representative has been invaluable; available to help us revamp our processes,..."

- Linda Biesenstein, Technologist

Are you interested in learning more about the benefits of automating electrophoresis testing in your laboratory? Simply circle 1 4 5 on your Reader Response Card.

In order to better serve you, we constantly update our **Sebia Separations** Mailing list. Please complete this card and return to us.

Please circle the reader service numbers of those items on which you would like more information.

Number of electrophoresis tests run per week: \_\_\_\_\_  
 Protein \_\_\_\_\_ Immunofixations \_\_\_\_\_ Hemoglobin \_\_\_\_\_  
 Please include your name and address here:  
 Name & Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Comments: \_\_\_\_\_

- article 142
- article 143
- article 144
- article 145
- article 146
- article 147

Reimbursement Info Card

Interested in additional Medicare reimbursement dollars? Please provide us with the following information for feedback!

Name & Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Please fill-in the following table:

Assay →	Protein	IF	Hgb	Lipid	Other
Weekly volume					
Send Out?					
Average hourly cost/test (with courier costs)					

Average hourly cost per FTE - Technologist? \$ \_\_\_\_\_  
 Results interpreted on-site? YES / NO  
 Ideally, times per week electrophoresis is/will be performed:  
 One  Two  Three  Four  Five

