THE PROBLEM ORIENTED MEDICAL APPROACH
I.F. Lane


1. Why the “problem-oriented approach”?
   a. The problem-oriented medical record was developed in the late 1960s as a new way of approaching medical record keeping. The basic idea was to record a patient’s major problems separately in order to encourage more logical patient management and better communication through medical records.
   b. The problem-oriented approach to medical diagnosis and medical training has evolved from this premise, in part as a logical way to approach medical diagnosis and management, as well as in response to the information overload occurring in the medical sciences.

2. What is the “problem-oriented approach”? 
   a. Medical “problems” are defined as any abnormality requiring medical or surgical attention or affecting the patient’s quality of life. In veterinary medicine, problems are primarily clinical signs and/or diagnoses: e.g. coughing, right hind lameness.
   b. Problems are identified during each stage of the patient evaluation and management, and stated only at the current level of understanding.
      “Coughing” may be later redefined as “pneumonia”
      “Lameness” may be later redefined as “cranial cruciate rupture”
   c. Overstating problems leads to tunnel vision, inappropriate or excessive diagnostic procedures, or inappropriate management.
      “Pulmonary edema” as opposed to “coughing with abnormal lung sounds” could lead to mismanagement of pneumonia.
      “Hip pain” as opposed to “hind limb lameness” could lead to a missed diagnosis of a stifle problem.
   d. Understating a problem leads to poor development of a diagnostic plan.
      “Skin problem” could mean anything, whereas “bilateral, symmetrical alopecia” will get you to the right chapter of the textbook.

3. How do we go about “solving” these problems?
   a. Identification of problems (from history, PE, diagnostic results) allows you to build a list of differential diagnoses, or rule-outs (possible causes) for the problem. This list in turn allows you to plan a logical diagnostic and/or therapeutic plan.
b. Differential diagnoses lists are generated by an exploration or understanding of the mechanisms of disease (pathophysiology) leading to a particular clinical sign or finding.

Example: Anemia Major mechanisms include 1) decreased production of RBCs and 2) increased destruction or loss of RBCs.

c. Differential diagnoses are listed in broad categories first, then in more focused lists. This prevents you from overlooking possibilities. Example:

Problem: Vomiting
Big categories of rule-outs:
1. Gastrointestinal disorders including inflammatory, obstructive, infectious, parasitic, and neoplastic disorders.
2. Extraintestinal disorders including renal disease, hepatic disease, pancreatic disease, and pyometra or prostatic disease.
Narrowed rule-outs: Parvoviral enteritis in a young puppy
Acute prostatitis in an intact male dog

d. As much as possible, problems should be ordered according to significance and rule-outs should be ranked in order of likelihood. You’ll usually be right. For example, “acute vomiting” is usually of more immediate significance than “lump on paw.” However, it is always possible that the problems are linked (the lump on the paw is a mast cell tumor and the dog had diffuse mastocytosis causing vomiting).

e. Some problems are more focused and have more limited rule-out lists than others, which can be used to your advantage. Examples:

Vague problems: Lethargy, anorexia, weakness
Specific problems: Icterus, ascites, joint swelling, hypercalcemia

f. Complete rule-out lists can be quite long. By using big categories and ranking possibilities, a focused initial diagnostic plan can be formulated:

<table>
<thead>
<tr>
<th>Problem</th>
<th>Rule outs:</th>
<th>Initial Diagnostic Plan:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coughing</td>
<td>Upper respiratory ds Pharyngeal exam</td>
<td>Tracheal palpation</td>
</tr>
<tr>
<td></td>
<td>Tracheal palpation ± Tracheoscopy or Tracheal Wash</td>
<td></td>
</tr>
<tr>
<td>Lower respiratory ds Infectious</td>
<td>Thoracic radiographs Complete blood count</td>
<td></td>
</tr>
<tr>
<td>Allergic</td>
<td></td>
<td>+Bronchoscopy or tracheal wash</td>
</tr>
<tr>
<td>Parasitic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiac Disease</td>
<td>Cardiac examination</td>
<td>Thoracic radiographs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± Echocardiography</td>
</tr>
</tbody>
</table>
4. How does the problem-oriented approach apply to case management?

   a. Plans for short-term and long-term therapy, as well as client education and instructions, should be problem specific.

   **Problem:** Cat bite abscess
   **Diagnostic plan:** Culture wound
   Radiograph limb for underlying problem
   **Therapeutic plan:** Sedate, clean and flush
   Administer antibiotics
   **Client Education Plan:** Prepare discharge instructions with instructions for monitoring abscess, administering antibiotics and keep cat indoors. Recommend neutering.

B. In medical training, problem specific learning objectives may be identified as well.

   Learning objectives:
   - What bacterial organisms are typically found in cat abscesses?
   - What antimicrobial is most appropriate for therapy?
   - What are the advantages and disadvantages of vigorous flushing of the wound?

5. What happens to the problems?

   a. In the diagnostic evaluation of a patient, problems are redefined (updated) or combined as information is gathered. For example: “Lameness is redefined or updated to “cranial cruciate rupture.” “Coughing” and “Heart murmur” may be combined and updated to “Mitral regurgitation with congestive failure.”

   b. Some problems are inactivated if they are incurable, or insignificant to the problem at hand: For examples: “Periodontal disease” in the dog with a cranial cruciate rupture; or “flea allergy dermatitis” in the dog with congestive heart failure. However, these problems stay on the master problem list.

   c. Ideally, medical problems are eventually resolved.

6. How does all this apply to the “problem oriented medical record”?

   a. Most importantly, the medical record should be organized by the patient’s problems as currently defined. The Master Problem List serves as a table of contents for the record.

   b. The problem oriented medical record documents the logical medical approach

   c. Additional advantages of the POMR include improved readability, improved documentation of plans and their justification, and improved communication between members of a team or group care practice.
7. How do we write up each problem then?

a. The “SOAP” method has been designed to take the clinician through three steps for each problem: Step 1. **Identify and document the facts and findings** (subjective findings (S), objective findings (O)) Step 2. **Make assessment, clinical assessment (A)**, and Step 3. **Make specific plans** to proceed (P) for each problem.

**Problem Number and Name:**

S: Symptoms or historical information, subjective changes e.g. Owner’s information, patient’s attitude, better or worse, etc.

O: Objective measures regarding problem: Things you can see, touch, feel, hear or measure e.g. physical examination findings, laboratory values, pathology reports, radiographic findings, etc.

A: Assimilation (usually in prose form or phrases) of above data and overall case assessment e.g. Interpretation of data, listing and ranking of rule outs, justification of rankings and plans, progress of patient and prognosis

P: Diagnostic, therapeutic and client education plans

b. The SOAP for each problem will be different for complicated problems, simple problems, early in the progress of the case, and later in the progress of the case.

**Example 1:** First (Day 1) SOAP of vomiting dog:

**DAILY PROGRESS NOTES**

9/14/10, 6 pm.

**Case Summary** (Optional): You may want to write a short summary of the case to this point, including relevant data and your problem list. This prose summary helps some people get oriented to the case and to start organizing their thoughts.

**Problem 1:** Vomiting

**S:** Owner reports acute onset of vomiting of food and yellow-white fluid yesterday. Dog is responsive but depressed. Seems uncomfortable.

**O:** PE: Mucous membranes slightly dry, skin turgor mildly decreased. Cranial abdomen painful on deep palpation.

CBC: Total WBC 20.5 x 10^9, 80% neutrophils, 5% bands
Chemistries: Unremarkable except K⁺ 3.0
Radiographs: Haziness to cranial abdomen
One episode of vomiting observed (small amount of bilious fluid) in hospital this morning
A: Acute vomiting may be due to systemic disorders affecting the GI tract (renal, hepatic, pancreatic or genitourinary) or to primary GI disorders. The lack of significant abnormalities on the biochemical panel in this dog makes hepatic disease or renal disease unlikely. Pyometra is also unlikely in a spayed female. Pancreatitis or primary intestinal disease are more likely. Pancreatitis is supported by the apparent abdominal pain, inflammatory leukogram and radiographic findings. However, these findings could also be explained by other acute intestinal disorders including acute viral enteritis (maybe coronavirus), upper intestinal obstruction (foreign body, mass), or acute dietary indiscretion (“garbage gut”). Other primary gastrointestinal causes of vomiting include parasitic, inflammatory or neoplastic diseases of the stomach or proximal small bowel; however, these problems are usually more chronic. We should try to confirm our suspicion of pancreatitis in this dog and rule out the other possibilities, while initiating non-specific therapy for the vomiting.

P:  DxP: Submit serum for amylase and lipase □
Submit fecal to rule out parasites □
Consider ultrasound examination of cranial abdomen
Consider upper GI series if no improvement

RxP: NPO for tonight □
Plan intravenous fluid therapy with supplemental potassium

CE: Question owner about possible garbage, foreign bodies, toxins
Explain suspected pancreatitis, plan for in-hospital management, and estimated costs for first 24 to 48 hours

Problem 2: Inflammatory Leukogram (Neutrophilia with Left Shift)

S: As above

O: Neutrophils 16.2 x 10^9/L, bands (immatures) 1 x 10^9/L, 1+ toxic changes
Other findings as above

A: Neutrophilia is usually a reflection of a demand for these cells somewhat in the body because of inflammation, but can also be caused by stress, epinephrine release, or leukemias. The band cells and toxic changes observed are most consistent with inflammation. In this dog the most likely sources of inflammation include the pancreas, intestinal tract or abdomen. Pancreatitis, inflammatory bowel disease, or peritonitis would be the most likely possibilities. A more obscure location of inflammation is also possible, but will be considered later.

P:  DxP: Submit serum amylase and lipase as for problem 1
Consider 4 quadrant abdominocentesis to look for abdominal fluid
Consider abdominal ultrasound
RxP: As above. Consider antibiotic therapy?

CE: None

Signature

Addendum 9/14/10 10 pm. Has vomited bilious fluid four times since 7 pm. Emergency ultrasound findings consistent with partial obstruction so the dog was taken to exploratory laparotomy. Signature

Example 2: Simple problem, later in the course of the case

DAILY PROGRESS NOTES

9/14/19 7 am

Physical examination: T 100.6, P 96 bpm, R 24 bpm, quiet, incision clean and dry.

Problem 1: Ovariohysterectomy - Postoperative

S: Bright and alert but a little quiet this morning
Abdomen doesn’t seem painful

O: Urinated and defecated normally this morning
Drank water
No vomiting observed
Incision clean and sutures intact

A: Routine recovery from OHE

P: DXP and RxP: Discharge today. Prepare discharge instructions and bill

CE: Discuss exercise restriction, incision monitoring, suture removal

Signature
8. Speaking of the medical record, what about Discharge Instructions?

a. The written discharge instructions are an integral part of the medical record and a key method for helping ensure owner compliance. This will be a reference for the owners, other veterinarians and other caretakers.

b. Discharge instructions should be written in appropriate language (concise, simple and layman’s terms) for the client’s understanding.

c. Make sure that the instruction format clearly highlights what the owner needs to do.

d. Most hospital accrediting organizations (e.g. AAHA) require instructions for each patient that include at least the diagnoses and prognosis, along with owner and veterinarian signatures. Good practice includes more detail, but can still be done in a concise (or preprinted) manner.

e. Here is just one suggested template:

**DISCHARGE INSTRUCTIONS**

**Patient Identification**  **Veterinarian(s) Name**

**Introductory statement:** “Thank you for bringing ________ to XYZ Animal Hospital.”

**Diagnoses:** Just list diagnoses, problems or “undetermined”

**Prognosis:** (Excellent, good, guarded, poor, grave)

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**Case summary:** Short summary of the case: What you did, what you found, key laboratory work

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**Care Needed:** specific instructions for the owner, including feeding instructions, medication administration, what the medications are for, other treatments, management or environmental strategies

**Monitoring Required:** What to watch for it (e.g. side effects of medications, potential complications, signs of worsening disease) and what to do about (call us, stop medications, etc)

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**Recheck Instructions:** When to come back and why (e.g. for recheck CBC, bandage change, surgery, etc)

**Personal/courtesy statement:** “We are so pleased to see Fluffy doing better…”

Signature of Owner ____________________ Clinician Signature ________________________