Coumadin, also known as crystalline warfarin sodium, is an anticoagulant (blood thinner) that is prescribed for residents who are at risk of forming blood clots. It is used to lower the chance of blood clots forming in the body. Blood clots can block the flow of blood to vital organs and can cause serious health problems such as stroke, heart attacks, or other conditions such as blood clots in the legs or lung.

Vitamin K is essential for the formation of blood clots. Residents receiving Coumadin must be monitored closely because Coumadin inhibits the natural blood clotting process by decreasing the activity of vitamin K thus increases the chance of bleeding.

Coumadin is essentially completely absorbed after oral administration with peak concentration generally attained within the first 4 hours. The terminal half-life of warfarin after a single dose is approximately one week; however the effective half-life ranges from 20-60 hours. The effects of Coumadin may become more pronounced as effects of daily maintenance doses overlap. Routine lab work must be performed to calculate the correct dose of Coumadin to avoid serious complications.

According to statistics, adults 60 years and older appear to demonstrate an increased sensitivity to Coumadin, and are classified at a higher risk than younger residents. The cause of the increased sensitivity is unknown. This White Paper on Coumadin was developed because the administration of Coumadin places such a high risk on our frail elderly residents.

Legal/Survey Considerations
- Coumadin issues often rise to the level of immediate jeopardy survey citations and possible litigation;
- Heparin and Plavix are low risk anticoagulants and don’t require routine follow up lab work (consult with physicians and pharmacist); a PTT may be done after administering heparin when all the lab work is stabilized;

Regulatory Considerations
- F 281, Resident Assessment
  The services provided or arranged by the facility must meet professional standards of care;
- F 309, Quality of Care
  Each resident must receive and the facility must provide the necessary care and services to attain or maintain the highest practicable physical, mental and psychosocial well being, in accordance with the comprehensive assessment and care plan;
- F 329, Unnecessary Drugs
  Each resident’s drug regimen must be free from unnecessary drugs, which includes, without adequate monitoring.
- F332, Medication Errors
  The facility must ensure that it is free of medication error rates of 5 percent or greater
- F333, Medication Errors
  Residents are free of any significant medication errors.
- F428, Drug Regimen Review
  The drug regimen of each resident must be reviewed at least once a month by a licensed pharmacist, and the pharmacist must report any irregularities to the attending physician, and the director of nursing, and these reports must be acted upon.
• F 502, Laboratory Services
  The facility must provide or obtain laboratory services to meet the needs of the resident. The facility is responsible for the quality and timeliness of the services;

• F 508, Radiology and other Diagnostic Services:
  The facility must provide or obtain radiology and other diagnostic services to meet the needs of its residents. The facility is responsible for the quality and timeliness of the services

Policy Considerations
• Develop facility policies and procedures to include the following:
  o A Quality Assurance program to monitor the administration of Coumadin and follow up lab work;
  o Monitor for trends and relate those trends to physicians and the medical director;
  o Include all past lab results as well as current lab results when reporting to physicians
  o Various tools recommended for recording and monitoring coumadin and related lab work are provided on the OHCA website, the link for which is listed at the end of this document;
  o Policies should not suggest standard time frames for follow-up lab work; but recommend that each resident has specific individualized orders for follow up lab work, as that is essential for proper control
  o Obtain acknowledgment of receipt for all lab work that is faxed to physicians, don’t assume it was received;

• Care plan for increased risk of bleeding for residents receiving Coumadin, as well as aspirin and/or Plavix, with or without Coumadin.

Educational Considerations
• Educate all facility staff who provide direct resident care;
• Educate staff, residents and families about the effects of Coumadin and include the following:
  o Monitor for, and report at once to the physician any signs or symptoms of bleeding and/or unusual bruising;
    ▪ Teach direct care staff/STNAs about signs or symptoms of bleeding and/or unusual bruising;
  o Monitor for medications that interact with Coumadin;
  o Be aware of certain foods that may affect Coumadin;
  o A number of OTC medications and Herbals may interact with Coumadin and if being administered, should be discussed with physician.
• Administrative staff must continually monitor the Quality Assurance program to be sure that the program is followed;
• Monitor for increased bleeding or bruising anytime Coumadin is started or stopped;

Purchasing Considerations
• ProTime and INRatio portable units are approved for professional and home use allowing healthcare providers immediate INR test values resulting in improved care. The CoaguChek S is available for professional use only. Real-time results allow immediate counseling, education and treatment without the delay of traditional lab testing.
• Consider the approximate cost of portable units: INR = $2700; Protire = $1700; and CoaguCheks = $1300;
• Portable units are sensitive to heat and cold;
• Portable unit strips are very expensive and can range from $7.00 and more per strip;
• Consider portable units upon discharge for home use;
• To access information about portable units go to http://www.ptinr.com/data/templates/article.aspx?z=5&amp;articleid=234&amp;u=patient&amp;ur=true

OHCA website link to Coumadin White paper and related materials:  http://www.ohca.org/content/view/409/

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