PERSONAL HEALTH CARE ISSUES

DENTAL PROCEDURES

Microorganisms normally exist in the oral cavity. Dental profilaxis, tooth extraction, root canal treatment, and other procedures may create transient, asymptomatic or symptomatic bacteremia in healthy individuals. Immunocompromised or debilitated patients, however, may develop severe diseases when infected by the microorganisms that normally exist in the oral cavity. There are reported associations between dental procedures and bacterial endocarditis.

The criteria for the ARC indicate that only plasma may be used when the donors had dental procedures such as cleaning, fillings, or braces done in the 24 hrs. previous to the donation. For H–Q potential donors are accepted after a filling or cleaning. However, in the case of tooth extraction, dental surgery or root canal, the person is deferred for three days after completing treatment.

PAHO Recommendation: Individuals who had dental procedures done at least 72 hrs. prior to blood donation, who are non–febrile, and who feel well, should be accepted as blood donors, as long as they have not taken aspirin during those 72 hrs. Intake of other medications should be evaluated (see Medication).

Bibliography
- Adachi M, Ishikara K, Abe S, Okuda K. Professional oral health care by dental hygienists reduced respiratory infections in elderly persons requiring nursing care. Int J Dent Hyg 2007; 5: 69–74.
- Burden DJ, Coulter WA, Johnston CD, Mullally B, Stevenson M. The prevalence of bacteraemia on removal of fixed orthodontic appliances. Eur J Orthod 2004; 26:443–7.
- Ito HO. Infective endocarditis and dental procedures: evidence, pathogenesis, and prevention. J Med Invest 2006; 53: 189–98.
- Karachaliou IG, Karachalios GN, Kanakis KV, Petrogiannopoulos CL, Zacharof AK. Fever of unknown origin due to dental infections: cases report and review. Am J Med Sci 2007; 333: 109–10.
- Lucas VS, Kyriazidou A, Gelbier M, Roberts GJ. Bacteraemia following debanding and gold chain adjustment. Eur J Orthod 2007; 29:161–5.
- Poveda Roda R, Jimenez Y, Carbonell E, Gavalda C, Munoz MM, Sarrion Perez G. Bacteraemia originating in the oral cavity: A Review. Med Oral Pathol Oral Clr Bucal 2008; 13: E355–62.
- Pretorious C, Jagatt A, Lamont RF. The relationship between periodontal disease, bacterial vaginosis, and preterm birth. J Perinat Med 2007; 35: 93–9.
- Tomás I, Alvarez M, Limeres J, Potel C, Medina J, Diz P. Prevalence, duration and aetiology of bacteraemia following dental extractions. Oral Dis 2007; 13:56–62.
- Waldman BJ, Mont MA, Hungerford DS. Total knee arthroplasty infections associated with dental procedures. Clin Orthop Relat Res 1997; (343):164–72.

VACCINES/IMMUNIZATIONS

Vaccines are used to make people immune to certain diseases by stimulating the defense systems to recognize pathogenic microoganisms or their toxins. There are vaccines against poliomyelitis, measles, mumps, rubella, hepatitis A, hepatitis B, influenza, varicella, rabies, yellow fever, tetanus, diphtheria, whooping cough, tuberculosis, pneumococcus, menigococcus, typhoid fever, cholera, and some viruses that cause diarrhea and cervical cancer. Some of these vaccines are recommended for infants and children, some for adults, and some for travelers. Vaccines may include microbial products or subunits, and killed or attenuated live microorganisms that do not have the capacity to cause disease to normal humans but are capable of inducing protective immune responses. Attenuated microorganisms do replicate in the human body and, in the case of immunosuppresed or immunodeficient patients, may cause clinical disease. In normal vaccinated individuals, some attenuated vaccine–derived microorganisms may reach the blood stream and, therefore, can potentially be transmitted through transfusions in much higher concentrations than that of the original vaccine.

Vaccines that are required to be considered include:

Vaccines with attenuated bacteria or viruses. Examples: BCG, yellow fever, measles, poliomyelitis, (oral) mumps, typhoid fever and cholera use attenuated virus or bacteria.
AABB: 2–week deferral, 4–week deferral for German measles (rubella) and chicken pox (varicella zoster).
CoE: 4–week deferral.
PAHO and CRS: 2–week deferral, 4–week deferral for varicella zoster or rubella.

Toxoids or killed vaccines. Examples: anthrax, cholera, diphtheria, influenza, para–typhoid fever, pertussis, plague, polio, fever, tetanus, typhoid, and thyphus.
AABB, CoE, CRS, PAHO: No deferral if donor is well.

Other vaccines including unlicensed vaccines.
AABB: 12–month deferral, unless otherwise indicated by medical director.

Use after exposure.
AABB: Rabies or anti–hepatitis B human immunoglobulin defer for 12 months to eliminate the risk of the possible rabies or hepatitis.

> PAHO Recommendation: Individuals who have been vaccinated should be deferred for periods of time that vary according to type of vaccine. Plans for mass vaccination campaigns of adults must include considerations regarding availability of blood donors during the corresponding deferral time.

Bibliography
- Centers for Disease Control and Prevention. Recommended Adult Immunization Schedule –United States. October 2007–September 2008. MMWR 2007; 56: Q1–4.
- Centers for Disease Control and Prevention. Recommended Immunization Schedules for Persons Aged 0–18 Years. http://www.cdc.gov.vaccines/recs/acip. Consulted 19 November 2008.
- Gerlich WH. Breakthrough of hepatitis B virus escape mutants after vaccination and virus reactivation. J Clin Virol 2006:S18–22.
- Isa MB, Martinez LC, Giordano MO, Ferreyra LJ, Gonzalez M, Glatstein N, Passeggi C, De Wolff MC, Nates SV. Resurgence of measles in the province of Cordoba, Argentina, in 2000. Rev Argent Microbiol 2001; 33:229–34.
- Manning SE, Rupprecht CE, Fishbein D, Hanlon CA, Lumlertdacha B, Guerra M, Meltzer MI, Dhankhar P, Vaidya SA, Jenkins SR, Sun B, Hull HF. Human rabies prevention –United States, 2008. Recommendations of the Advisory Committee on Immunization Practices. MMWR 2008; 57: RR–3.

• Marin M, Güris D, Chaves SS, Schmid S, Seward JF. Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention (CDC). Prevention of Varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep 2007; 56(RR-4):1–40.
• Plotkin SA. Vaccines: past, present and future. Nat Med 2005; 11(4 Suppl):S5–11. World Health Organization. Rabies Vaccine WHO position paper. Weekly Epidemiol Rec 2007; 82: 425–36.

MEDICATION

(SEE ALLERGIES, DIABETES, BLOOD PRESSURE [ARTERIAL]/HYPERTENSION, VACCINES/IMMUNIZATIONS)

Medication may be taken by individuals to either cure or prevent illness, and to maintain adequate levels of biological substances that are required for balanced normal metabolism. The potential harm to transfusion recipients of both the underlying medical condition of the donor and of the medication being taken must be assessed when considering collecting blood from individuals who take or have recently taken medication. Most prescribed medicines do not require deferral from donating; however, the underlying condition for which the medication has been prescribed may affect eligibility to donate. This is the case for donors taking antibiotics, anticoagulants, insulin, systemic corticosteroids, for example. In general, persons who take medications with a cumulative effect and those that are teratogenic should not donate blood for transfusions.

The medications that are considered in the blood donation process are:

Aspirin irreversibly inactivates platelet function.
AABB: Accept 36 hrs. after ingestion of aspirin.
CRS: Aspirin–containing medications or those that inhibit platelet function if ingested within three days, preclude use as sole source of platelets.

Acitretin (Soriatane) is used in severe psoriasis, including erythrodermic and generalized pustular types. Acitretin is known to cause serious birth defects in unborn babies. Donated blood containing acitretin given to a pregnant woman may cause birth defects in the unborn baby.
AABB, CRS: Defer for three years.

Bovine insulin, manufactured in the United Kingdom (UK) preparations may contain prions, the causative agents of transmissible spongiform encephalopathies (TSE).
AABB: Permanent deferral.

Dutasteride (Avodart), is used to treat the enlarged prostate, a condition called benign prostatic hyperplasia. Any contact with this drug by a pregnant woman could result in abnormal external sex organs of the developing male fetus.
AABB: Accept six months after last dosage.

Etretinate (Tegison), used for acne and psoriasis treatment, is associated with serious birth defects. After prolonged treatment it can accumulate in fat and plasma proteins.
AABB: Permanent deferral.

Finasteride (Proscar, Propecia) and isotretinoin (Accutane, Claravis, Amnesteem, Sotret) used in the treatment of cancer, have teratogenic effects. After prolonged treatment the drugs can accumulate in blood for up to one month.
AABB, CRS: Accept one month after last dose.

Antibiotics.
AABB: As defined by the facility's medical director.

> PAHO Recommendation: Only healthy individuals who are feeling well at the time of donation should donate blood. For calculating deferral periods of potential donors who are or have recently taken medicines, both the type of blood hemocomponent to be prepared and the drug's pharmacokinetics for a given formulation should be considered. The standard operating procedures for blood services should contain a regularly updated list of medications that warrant donor deferral.

Bibliography

- American Society of Health–System Pharmacists. AHFS Consumer Medication Information. http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=medmaster.TOC&depth=1. Consulted 25 September 2008.
- Andres E, Fedeciri L, Weitten T, Vogel T, Alt M. Recognition and management of drug–induced acute neutropenia and agranulocytosis. Expert Opin Drug Saf 2008; 7:481–9.
- Boethius G. Recording of drug prescriptions in the county of Jämtland, Sweden. III. Drugs presented for blood donors in a 5 year period. Eur J Clin Pharmacol 1977; 12:45–9.
- Ferner RE, Dunstan JA, Chaplin S, Baird GM. Drugs in donated blood. Lancet. 1989; 2:93–4.
- Kamel HT, Bassett MB, Custer B, Paden CJ, Strollo AM, McEvoy P, Busch MP, Tomasulo PA. Safety and donor acceptance of an abbreviated donor history questionnaire. Transfusion 2006; 46:1745–53.
- Melanson SE, Stowell CP, Flood JG, Lewandrowski EL, Zak RJ, Lewandrowski KB. Does blood donor history accurately reflect the use of prescription medications? A comparison of donor history and serum toxicologic analysis. Transfusion 2006; 46:1402–7.
- Pisciotto P, Sataro P, Blumberg N. Incidence of adverse reactions in blood donors taking antihypertensive medications. Transfusion 1982; 22:530–1.
- Schulz M, Schmoldt A. Therapeutic and toxic blood concentrations of more than 800 drugs and other xenobiotics. Pharmazie 2003; 58:447–74.
- Stichtenoth DO, Deicher HR, Frölich JC. Blood donors on medication. Are deferral periods necessary? Eur J Clin Pharmacol 2001; 57:433–40.


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