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AIR QUALITY/SMOKE PROTOCOL

I. Purpose

A. The purpose of this protocol is to minimize the health consequences of youth exposed to smoke from wildfires resulting in air quality warnings.

II. Background

- A. Wildfire smoke is considered an air pollutant which can have significant health effects with acute or prolonged exposure. Smoke from wildfires is made up of small, microscopic particles and gases from burning vegetation, building materials and other materials. The fine smoke particles are known to affect the respiratory system where they can be inhaled deep into the lungs. Some particles may even get into the bloodstream and affect the cardiovascular system.
- B. The effects of smoke range from eye and respiratory tract irritation to more serious disorders, including reduced lung function, bronchitis, exacerbation of asthma and heart failure and premature death. Fine particles are respiratory irritants and can cause symptoms in even healthy people. The level and duration of exposure, age, individual susceptibility including the presence of pre-existing lung (asthma, COPD) or heart disease, and other factors play a significant role in determining whether someone will experience smoke-related health problems. Numerous studies have showed an association between exposure to particulate matter and increased hospital admissions as well as death from heart or lung disease.

III. <u>Definitions</u>

- A. Air Quality Index (AQI): A measure/ranking of air pollution.
- B. Sensitive population: Persons who have asthma, chronic lung disease and/or heart disease (including hypertension), pregnant females, older persons and children under 12.

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IV. Procedure

- A. The health, safety and security of youth and staff under the care of the Probation Department are of utmost concern and priority. In the event of a wildfire or other environmental events causing air quality warnings,
 - Medical and Probation will communicate with the Office of Emergency Management (OEM) and Santa Barbara County Air Pollution Control District as to air quality at Los Prietos Boys Camp.
- B. The intent of this protocol is to address medical recommendations as it applies to "groups" of youth impacted by environmental events affecting air quality. Health and medical issues involving individual youth will remain the purview of the medical unit and are to be addressed pursuant to current policy and procedure.
- C. Upon a medical recommendation to remove a group or evacuate the entire population due to air quality concerns, the medical recommendation with supporting information shall be forwarded through the chain of command to the Chief Probation Officer for consideration. Upon review of the facts and circumstances, and in consideration of safety and security issues associated with the proposed relocation of youth, the Chief Probation Officer or designee shall provide direction regarding potential evacuation or other necessary steps to address health issues and any safety and security concerns.
- D. Upon medical's recommendation to remove a group or evacuate the entire population as authorized in Section C above, youth will be transferred to the Santa Maria Juvenile Hall (SMJH) or other "cleaner air" environment as determined by the Probation Department.
- E. Using particulate matter readings when available, Medical and Probation will attempt to determine the air quality at LPBC based on station monitoring for particulate matter, PM10 and PM2.5 in Santa Barbara, Goleta and Santa Ynez Valley. Based on the subjective assessments of air quality at LPBC, Medical and Probation will consider the following actions.

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- 1. Good 0-50 Air Quality Index (AQI)
 - a. Air is satisfactory. No health effects expected
 - b. No restriction of activities
 - c. Transportation to camp as usual
- 2. Moderate 51-100 AQI
 - a. Air quality is acceptable. There may be health concerns for a very small number of people.
 - b. No restriction of activities. Unusually sensitive individuals should consider limiting prolonged or strenuous exertion.
 - c. RN will monitor youth with heart or lung disease twice daily. Staff are to notify medical if youth have the following symptoms:
 - 1) Lung symptoms: shortness of breath, difficulty breathing, chest tightness or pain, repeated coughing
 - 2) Heart symptoms: chest pain, heart palpitations, dizziness
 - 3) Burning in nose, eyes, mouth
 - 4) Unusual fatigue, dizziness or nausea
 - d. For symptomatic youth:
 - 1) Avoid outdoor activities
 - 2) Avoid physical exertion
 - e. Transportation to camp as usual

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- 3. Unhealthy for Sensitive Populations 101-150 AQI
 - a. Air quality is unhealthy for sensitive groups. There is increased likelihood of respiratory and cardiovascular symptoms in sensitive individuals, aggravation of heart or lung disease, and premature mortality in persons with cardiopulmonary disease. The general public is not likely to be affected.
 - b. Sensitive populations should stay indoors if possible and avoid strenuous activities.
 - c. If youth become symptomatic, notify medical. Upon a medical recommendation to remove symptomatic youth, the youth will be transported from LPBC pursuant to section C.
 - d. Youth within the Sensitive Population will not be transported from SMJH to camp until air quality improves.
- 4. Unhealthy 151-200 AQI
 - a. Increased aggravation of heart and lung disease and premature mortality in persons with cardiopulmonary disease. Increased respiratory effects in the general population (Everyone may begin to experience health effects).
 - b. Restriction of activities for all youth. No strenuous or prolonged activity. No outdoor work-crews. Limited calisthenics. N95 masks for movement outside.
 - c. Daily symptom monitoring of youth and staff.
 - d. Upon a medical recommendation to remove sensitive and symptomatic youth, the youth will be transported from LPBC pursuant to section C.

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- e. No youth will be transported to camp until AQI improves.
- 5. Very Unhealthy 201-300
 - a. Health Alert: everyone may experience more serious health effects.
 - b. Upon a medical recommendation to remove **ALL** youth, with approval as outlined in Section B, youth will be transported from LPBC pursuant to section C.
- F. When at LPBC during an event that impacts air quality, environmental measures should be taken as possible to minimize health effects on youth and staff.
 - 1. Good 0-50 AQI
 - a. None
 - 2. Moderate 51-100 AQI
 - a. None. If unusually sensitive individuals, follow instructions for C.3 below.
 - 3. Unhealthy for Sensitive Groups 101-150 AQI
 - a. Keep doors and windows closed (seal large gaps if needed).
 - b. Avoid using exhaust fans (i.e. Kitchen)
 - c. Run air-conditioning in re-circulate mode. Use of a higher efficiency filter is recommended for heating systems.
 - d. Operate portable HEPA air cleaners if available.
 - e. Avoid vacuums, leaf blowers or sweeping as this can stir up ash and lower air quality in the immediate area.

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- 4. Unhealthy 150 200 AQI
 - a. See C.3. above, plus;
 - b. N95 respirator masks for all outside movement.
 - 1) See attached "Protect your lungs from Wildfire Smoke" for instructions on proper use.
- 5. Very Unhealthy >200 AQI
 - a. Probation, Medical and Public Health Department EOC shall discuss and determine the need to transport youth from LPBC pursuant to Sections B and C.
- G. After a fire or other event that impacted air quality, the clean-up of ash should occur once the air quality is stable and in the healthy range.
 - 1. Avoid skin contact with ash as it can contain toxic materials. If there is exposure to ash directly on skin during clean up, wash it off immediately.
 - 2. Use protective wear (N95 respirators), gloves, pants and long-sleeved shirts during clean up. Youth with heart and lung conditions are prohibited from cleaning up ash. Adults with heart or lung conditions should also avoid ash cleanup.
 - 3. Avoid stirring up ash. Sweep gently and use water or wet cloth or mop to clean items and surfaces.
 - 4. Avoid activities that stir up ash (i.e. playing basketball on asphalt covered in ash).
 - 5. No leaf blowers instead can sweep gently with a push broom, then hose lightly with water. Bag ash in trash bags or use a shop vacuum equipped with a high-efficiency particulate filter (HEPA) and disposable filter bag.

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V. Air Quality Matrix

Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0 to 50	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	51 to 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 to 300	Health alert: everyone may experience more serious health effects
Hazardous	301 to 500	Health warnings of emergency conditions. The entire population is more likely to be affected.