## Coroner vs. Medical Examiner

- Citizen
- No specified training
- Administrator or Law enforcement
- Elected or appointed

- Physician
- Usually forensic board certified
- Public health
- Usually appointed

## CALIFORNIA: 58 Counties

- 43 Sheriff-Coroner
- 10 Coroner
  - 1 Physician Coroner (Fresno)
- 2 ME-Coroner (Los Angeles, Santa Clara)
- 3 ME (San Diego, San Francisco, Ventura)

## Board Certified Forensic Pathologists

Certified by American Board of Pathology

- After:
  - 4 years medical school
  - 4-5 years residency
  - 1 year fellowship
- May take certification examination
- Must pass Anatomic Pathology exam before eligible to take Forensic Pathology exam
- 350-450 certified in US

## REPORTABLE DEATHS

Defined by CA H&S Code 10250 and Gov Code 27491

- Violent, sudden, or unusual.
- Unattended by physician in last 20 days.
- Related to accident or injury, either old or recent.
- Homicide, suicide, or accidental poisoning.
- Due to criminal acts.

## DEATH CERTIFICATION

Reporting Requirements

- The ME/C must be notified for those types of death specified in CA Gov Code 27491.
- The only requirement is for the ME/C to investigate.
- The ME/Coroner has a right to the medical record, and can have it subpoenaed (HIPAA exempt).
- Permission of next of kin NOT required for ME/C autopsy.
- The physician must be able to certify natural cause before allowing a hospital autopsy.

## California Gov. Code 27491

- Known or suspected homicide.
- Known or suspected suicide.
- Accident: Whether the primary cause or only contributory; whether the accident occurred immediately or at some remote time.
- Injury: Whether the primary cause or only contributory; whether the injury occurred immediately or at some remote time.
**California Gov. Code 27491**

- Grounds to suspect that the death occurred in any degree from a criminal act.
- No physician in attendance (no medical history).
- Wherein the deceased has not been attended by a physician in the 20 days prior to death ("in attendance" is defined as "the existence of the relationship whereby a health care provider renders those services which are authorized by the health care provider's licensure or certification.")
- Wherein the physician is unable to state the cause of death (must be genuinely unable and not merely unwilling.)

**California Gov. Code 27491**

- Poisoning (food, chemical, drug, therapeutic agents).
- All deaths due to occupational disease or injury.
- All deaths in operating rooms or following surgery or a major medical procedure.
- All deaths where a patient has not fully recovered from an anesthetic, whether in surgery, recovery room or elsewhere.

**California Gov. Code 27491**

- All solitary deaths. (Unattended by a physician, family member or any other responsible person in the period preceding death.)
- All deaths in which the patient is comatose throughout the period of physician’s attendance, whether in home or hospital.
- All deaths of unidentified persons.
- All deaths where the suspected cause of death is Sudden Infant Death Syndrome (SIDS).

**California Gov. Code 27491**

- All deaths in prisons, jails, or of persons under the control of a law enforcement agency.
- All deaths of patients in state mental hospitals.
- All deaths where there is no known next-of-kin.
- All deaths caused by a known or suspected contagious disease constituting a public health hazard, to include AIDS.
- All deaths due to acute alcohol or drug intoxication.

**Typical CA Death Certificate**

<table>
<thead>
<tr>
<th>Description</th>
<th>Date/Time</th>
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<tbody>
<tr>
<td>107A Cause of death</td>
<td></td>
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<tr>
<td>107B DUE TO Cause of death</td>
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</tr>
<tr>
<td>107C DUE TO Cause of death</td>
<td></td>
</tr>
<tr>
<td>107D DUE TO Underlying Cause of death</td>
<td></td>
</tr>
<tr>
<td>112 Other significant conditions contributing to death but not causing 107A (above)</td>
<td></td>
</tr>
<tr>
<td>113 Medical /Surgical Procedures (Dates)</td>
<td></td>
</tr>
</tbody>
</table>

**Therapeutic Complications**

- Must be reported: Natural or Accident?
- Need to know:
  - Dates of procedures.
  - Indications for procedures.
  - Co-morbidities and risk factors (including abnormal anatomy that made the complication more likely).
  - Is this an expected or common complication of this procedure? (complications listed on consent form are not necessarily either!)
Case 1

- A 56 year old male with Hepatitis C and end stage liver disease presents with an upper GI bleed.
- Upper endoscopy is performed but he exsanguinates despite repeated attempts to stop the variceal hemorrhage.
- He is Utox- and the cause of the HCV is remote IVDA.

Case 2

- A 65 year old male with Hepatitis C and end stage liver disease presents with ascites and sepsis.
- A liver biopsy is performed but the next day his Hct drops and a CT reveals intra-abdominal hemorrhage.
- He is Utox- and the only risk factor for HCV is a remote transfusion.

Case 3

- An 85 year old man with a h/o diabetes mellitus, s/p remote MI is in a nursing home with dementia.
- He develops bronchopneumonia, is put on comfort measures only and dies, attended by family.
Case 4

- An 62 year old man with a 20 pack year history of smoking and a history of chronic alcoholism c/o a fever and cough.
- In the ER a CXR shows bilateral fluffy infiltrates and sputum culture is positive for *Klebsiella*.
- He becomes hypoxic and dies 2 days later, despite antibiotic therapy.

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Case 5

- An 40 year old woman with a remote history of smoking develops a hacking productive cough and fever one winter following an outbreak of Influenza.
- She is admitted to the ER and a CXR shows a lobar RLL infiltrate.
- She is admitted but becomes hypoxic and dies within 24 hours of admission.

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Case 6

- A 33 year old man with cerebral palsy who has been in a state institution since childhood has a recurrent history of pneumonia and recurrent UTI’s.
- He dies of multi-organ system failure from sepsis.
- Blood and urine cultures are both positive for *E. coli*.
Case 7

- A baby girl dies in the NICU after 2 weeks of life.
- She was born to a G2 P1 mother with a history of pre-term labor, pre-eclampsia and gestational diabetes.
- The infant is born at 26 weeks, develops NEC, has an interventricular hemorrhage and subsequently dies with MOSF.

Case 7 (again)

- A baby girl dies in the NICU after 2 weeks of life.
- She was born to a G2 P1 mother with a history of pre-term labor, pre-eclampsia and gestational diabetes.
- The infant is born at 26 weeks, develops NEC, has an interventricular hemorrhage and subsequently dies with MOSF.
- Pathology on placenta reveals chorioamnionitis.

Case 8

- A baby girl dies in the NICU after 2 weeks of life.
- She was born to a G2 P1 mother with a history of drug abuse (cocaine and heroin).
- The infant is born at 26 weeks, develops NEC, has an interventricular hemorrhage and subsequently dies with MOSF.
- Mom’s tox is positive on admission and infant is treated for symptoms of withdraw.
Case 9

- A baby girl dies in the NICU after 2 weeks of life.
- She was born to a G2 P1 mother with a history of domestic violence.
- The infant is born at 26 weeks, develops NEC, has an interventricular hemorrhage and subsequently dies with MOSF.
- Mom has bruises on her belly and arm. She tells nursing staff that she “fell” into a door shortly before going into pre-term labor.

Case 10

- A 4 month old boy is brought to the ER in respiratory arrest.
- He was found unresponsive in his crib at a child care center about 30 minutes after being fed and put down for a nap.
- He has no significant medical history.
- After resuscitation he survives 3 weeks in the PICU before being declared brain dead.

Case 11

- A 55 year old man with familial hypercholesterolemia and type II DM dies at home. You’ve been his doc for years.
- He had a CABG x 3 two years ago, and had been c/o edema, increasing angina and SOB.
- His wife found him dead in bed in the a.m.
- You saw him last week, so you are asked to sign the death certificate.
Case 12

- A 55 year old man with familial hypercholesterolemia and type II DM dies at home. You’ve been his doc for years.
- He had a CABG x 3 two years ago, and had been c/o edema, increasing angina and SOB.
- His wife found him dead in the garage, where he was working on a household improvement project.

Typical CA Death Certificate

Death reported to ME: YES/NO

- 107A
- 107B
- 107C
- 107D
- 112
- 113

Case 12 (again)

- A 55 year old man with familial hypercholesterolemia and type II DM dies at home. You’ve been his doc for years.
- He had a CABG x 3 two years ago, and had been c/o edema, increasing angina and SOB.
- His wife found him dead in the back yard hot tub.

Typical CA Death Certificate

Death reported to ME: YES/NO

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Case 13

- A 55 year old man with primary sclerosing cholangitis and cirrhosis undergoes a liver transplant.
- He dies of acute rejection and sepsis 2 weeks after surgery.

Typical CA Death Certificate

Death reported to ME: YES/NO

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Case 14

• A 22 year old woman with a history of depression develops jaundice and fulminant hepatic failure 3 days after taking too much Tylenol.
• She undergoes a liver transplant, survives 3 years, but eventually succumbs to chronic rejection.

Case 15

• A 30 year old man is stabbed in the abdomen in a bar brawl.
• The knife damages the hepatic artery and by the time he is resuscitated he has suffered irreversible hepatic injury.
• He undergoes a liver transplant, but after 13 months he stops taking his meds and dies from acute rejection.

Case 16

• A 45 year old woman with longstanding hypertension c/o a headache, then has a witnessed collapse.
• In the ER a CT scan shows no intraparenchymal hemorrhage, but there is SAH at the base of the brain.
• She dies before angiography can be performed.
Case 17

- A 65 year old man with diabetes, heart disease, congestive heart failure and COPD is admitted with chest pain.
- Coronary angiography shows high grade stenosis, but he is a poor surgical candidate.
- Two days after angiography he develops ST segment elevations, + troponins and dies.
- The family is livid because the “doctors killed him.”

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