

Domestic Violence Strangulation Project

The Burden of Proof: Strangulation and
Suffocation Cases



Recent History

- Aggravated Assault by Strangulation 13-1204.B became law in Arizona as a class 4 felony and added to the Domestic Violence Statute July 29, 2010.
- The statute defines strangulation as either intentionally or knowingly impeding the normal breathing or circulation of blood of another person by applying pressure to the throat or neck or by obstructing the nose and mouth either manually or through use of an instrument.
- The statute also requires the presence of a relationship defined in the DV Statute 13-3601.

Fatality Of Strangulation

- Immediate death from strangulation can occur by 1 or 4 mechanisms:
 - Cardiac arrhythmia provoked by pressure on the carotid artery nerve ganglion causing cardiac arrest.
 - Pressure obstruction of the carotid arteries causing loss of oxygenated blood to the brain
 - Pressure on the jugular veins preventing venous blood flow from leaving the brain causing backup of blood flow in the brain leading to unconsciousness, depressed respirations and asphyxia
 - Pressure obstruction of the larynx cuts off airflow causing asphyxia

Fatality Of Strangulation

- ◉ Delayed Death from Strangulation can occur by:
 - > Carotid Artery dissection – tear in artery causing blood clot which can dislodge later and cause stroke
 - > Respiratory complications – aspiration pneumonia (vomit usually), and acute respiratory distress syndrome (not enough oxygen in the lungs and therefore not enough oxygenated blood to support brain and organ function.)

Digastric muscle (anterior belly)

Stylohyoid muscle

Mylohyoid muscle

External carotid artery

Internal carotid artery

Thyroid cartilage

Sternocleidomastoid

Cricoid cartilage

Semithyroid muscle

Brachial plexus

Trapezius muscle

External jugular vein

Ornithoid muscle

(anterior belly)

Trachea

Anterior thyroid vein

Anterior view

Mandible

Hyoid bone

External jugular vein

Superior thyroid vein

Common carotid

Left vagus nerve

Internal jugular vein

Deep cervical lymph node

Middle thyroid vein

Brachial plexus

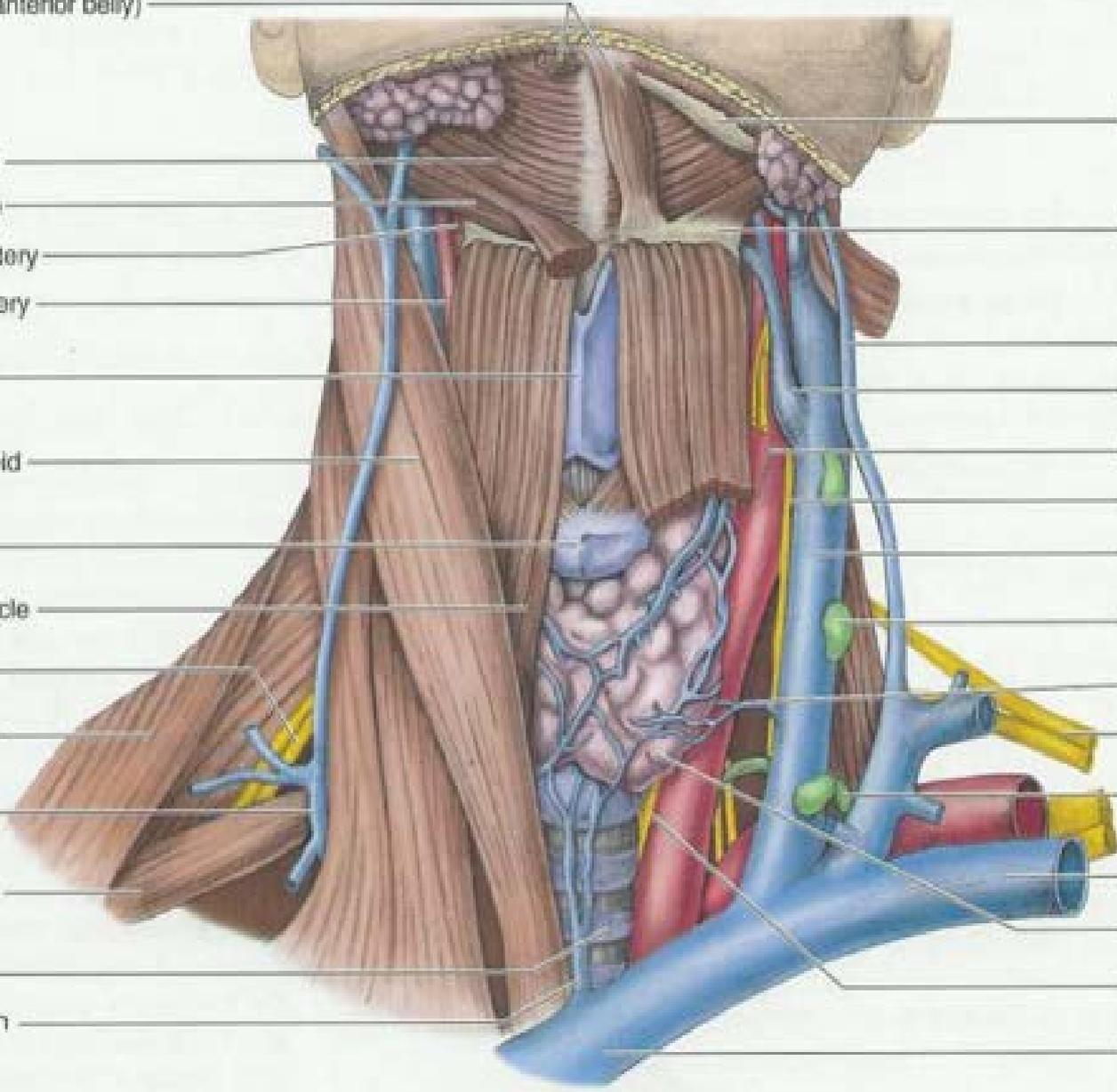
Thoracic duct

Subclavian vein

Thyroid gland

Recurrent laryngeal nerve

L. brachiocephalic vein



San Diego Strangulation Study

- The San Diego Police Department conducted a study of 300 strangulation cases in 1995. The study found the following information from those cases:
- 99% of the suspects were men
- There was a history of Domestic Violence in 90% of those cases
- Only 3% of the victims sought medical attention
- In 62% of these cases, no visible injury could be documented

Other Studies on Strangulation

- A 2001 study by Wilbur et al. of 62 women in Los Angeles and Dallas found that almost 70% had been strangled in the past.
 - Average time in relationship before initial strangulation was 5.2 years
 - Average length of abuse prior to initial strangulation was 3.1 years
 - 87% were threatened with death during the strangulation event and 70% believed that they were actually going to die during it.
 - The study also found that the strangulations symptoms increased as the number of strangulation incidents increased. (cumulative effect?)
- George McClane in his study found that victims experience 4 stages in a prolonged strangulation event:
 - Denial – “I can’t believe this is happening to me”
 - Realization – “This is actually happening to me”
 - Primal – Struggle to preserve life
 - Resignation - “I am going to die, I hope my kids will be ok, I hope someone will catch him, etc.”

Building a Strangulation Case

- Need to be able to identify the signs and symptoms of strangulation
 - › Training of first responders is essential for collecting on-scene evidence of strangulation
- Audio recording of initial scene response excited utterances and interviews
- Preserving 911 call – Identifying and interviewing witnesses
- Collecting medical records – Paramedic and Hospital

Signs and Symptoms of Strangulation

- Voice Changes – occurs in up to 50% of patients – collect 911 call or other audio recordings of victims voice as evidence
- Difficulty Swallowing – excessive spitting, difficulty eating or drinking
- Mental State – highly emotional, nightmares, PTSD, memory loss, depression, anxiety, restlessness and combativeness secondary to hypoxia (oxygen deprivation) and severe stress reaction – need to document observations of victim both at scene and during follow up
- Unconsciousness- If rendered unconscious possible loss of bowel or bladder control (embarrassing for victims so it will need to be specifically asked as they will have most likely changed clothes prior to police arrival if possible)
- Can occur within 10 seconds if at least 4.4lbs of pressure applied to jugular veins – blood flow out of brain (Glock 22 trigger pull - 5.5lbs)
- Can occur within 10 seconds if at least 11lbs of pressure applied to carotid arteries – blood flow to the brain (Open a can of beer - 22lbs)

Signs and Symptoms of Strangulation

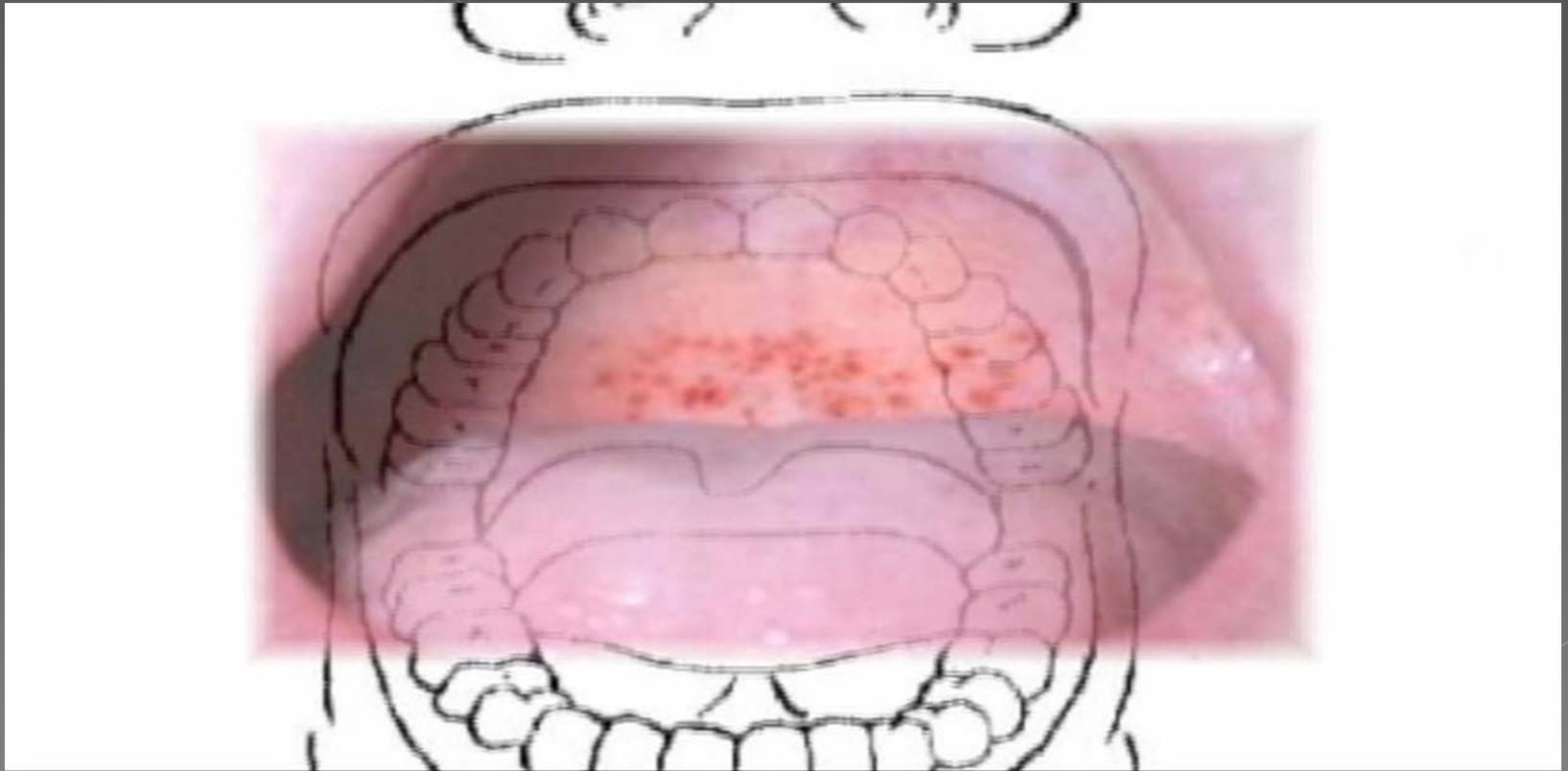
- Defensive Scratch marks on neck or face – Primal fight to preserve life
- Bruising under chin (tucking chin to protect airway)
- Scratching at face and neck trying to pry hand or arm away from throat or mouth
- Offensive wounds on suspect – Primal fight to preserve life (still self-defense)
- Ears ringing - Tinnitus
- Light headedness
- Nausea / vomiting
- Finger touch pad bruising – thumb print usually most pronounced
- Neck Swelling – damage to underlying structures (possible medical emergency)
- Ligature Marks if item other than hands used for strangulation (usually linear)
- Visual – spots in vision, “seeing stars”, blurred vision
- Physical – feel the blood pulsating pressure in the neck, red marks, bruising, cuts, scrapes, biting tongue

Petechiae



- Petechiae can occur from various means, however it can also be used to corroborate strangulation as often times the back pressure created by the blood flow being restricted above the point of strangulation causes capillaries and smaller blood vessels to burst.

The Importance of a Forensic Exam



The Baltimore Sun - September 22, 2010



New technology designed to detect hard-to-see injuries has been successfully used to prosecute a domestic violence suspect in the city. Called an Alternative Light Source, staffers at [Mercy Medical Center](#) used it to detect bruises hidden under a victim's skin.

(In the photo by The Sun's Kim Hairston, Angela Primeau, a forensic nurse examiner at Mercy Medical Center, shows off the Spex forensics handscope, which uses light of different wavelengths to reveal bruising in domestic violence cases).

As a result, the [Baltimore State's Attorney's Office](#) says a [31-year-old man was found guilty](#) of assault and sentenced to eight years in prison. A Baltimore Circuit Court judge allowed the Mercy nurse to testify about the technology.

Baltimore Sun reporter Kate Smith described the new technology in a [story published earlier this month](#).

A statement from city prosecutors:

While at Mercy Medical Center, the victim was examined by Barbara Boal, R.N., F.N.E. – A, a forensic nurse with the hospital's SAFE program. She observed and photographed bruising to the victim's chest, back, and neck.

She then examined the victim using an Alternative Light Source (ALS), a technology that will allow its user to observe bruises underneath the skin and not yet visible to the naked eye.

The Importance of a Forensic Exam

- Gives prosecutors that medical corroboration to show the strangulation event occurred.
- Gives the victim a medical evaluation for potential emergency follow up
- Provides high tech documentation for improved jury response (CSI Effect) at trial and to increase the number of plead cases prior to trial.

The Importance of a Forensic Exam

- Forensic Exams can be conducted up to 120 hours after an incident has occurred
- They are usually conducted in an advocacy center exam room (similar to a sexual assault exam,) but can be conducted in a hospital should the victim need advanced care.
- Forensic exams are non-invasive and consist of different methods from medical questioning and observation, DNA transfer swabs, to Ultra High Resolution and possibly Alternate Light Source Photography.

Reviewed submittals to MCAO between February 2011 – August 2011

- 12 cases – Chandler PD
- 38 cases – Glendale PD

- 50 cases total

Cases Filed:

- 6 Glendale PD
- 1 Chandler PD

- 7 of 50 cases = 14%

43 cases Turndown for Prosecution

- Reasons:

- > 90% Lack of corroboration
- > 5% Self defense issues
- > 5% Breathing not impeded

Project started December 1, 2011

Partners:

- > Maricopa County Attorney's Office
- > Glendale PD
- > Chandler PD
- > Scottsdale Healthcare



Agreement:

- To provide medical – forensic examinations and collect evidence relating to intimate partner domestic violence where allegations of strangulation are present



Forensic Exam Camera

Canon EOS 7D



Cost per exam - \$400

Includes:

- 1) Respond 24/7 to Advocacy Center/Hospital
- 2) Assess, plan, intervene and evaluate patient/victim care as stated in the policies and procedures, standards of care, and clinical competencies of the FNE department
- 3) Conduct comprehensive evidentiary examinations of the victim/suspect including documenting the history, perform a head to toe examination, gather photographic documentation, collect DNA evidence and other physical evidence, evaluate and report findings to law enforcement, and maintain the chain of custody as directed by MCAO.

- 4) Provide fact and expert witness testimony in court; attend and participate in defense interviews and pretrial preparation; and maintain availability for case staffings as necessary.
- 5) Maintain victim/suspect documentation and confidentiality of medical/legal records, including HIPAA requirements where and if applicable; and
- 6) Consult with other specialists as required and adjust nursing care process as indicated to ensure optimal care.

3 Month Review

December 1st, 2011 – February
29th, 2012

- ◉ Allegation of Strangulation
 - > 34 cases – Glendale PD
 - > 7 cases – Chandler PD
 - > 41 Total

31 victims in 41 cases consented to exam

- ◉ Exams performed at
 - > 31 – Glendale Family Advocacy Center
 - > 6 – Mesa Center Against Family Violence
 - > 2 – Arrowhead Community Hospital (Glendale)
 - > 1 – Banner Thunderbird Hospital (Glendale)
 - > 1 – Chandler Regional Hospital

31 exams of consenting victims 26 of these cases were submitted for felony charges to MCAO

○ Results:

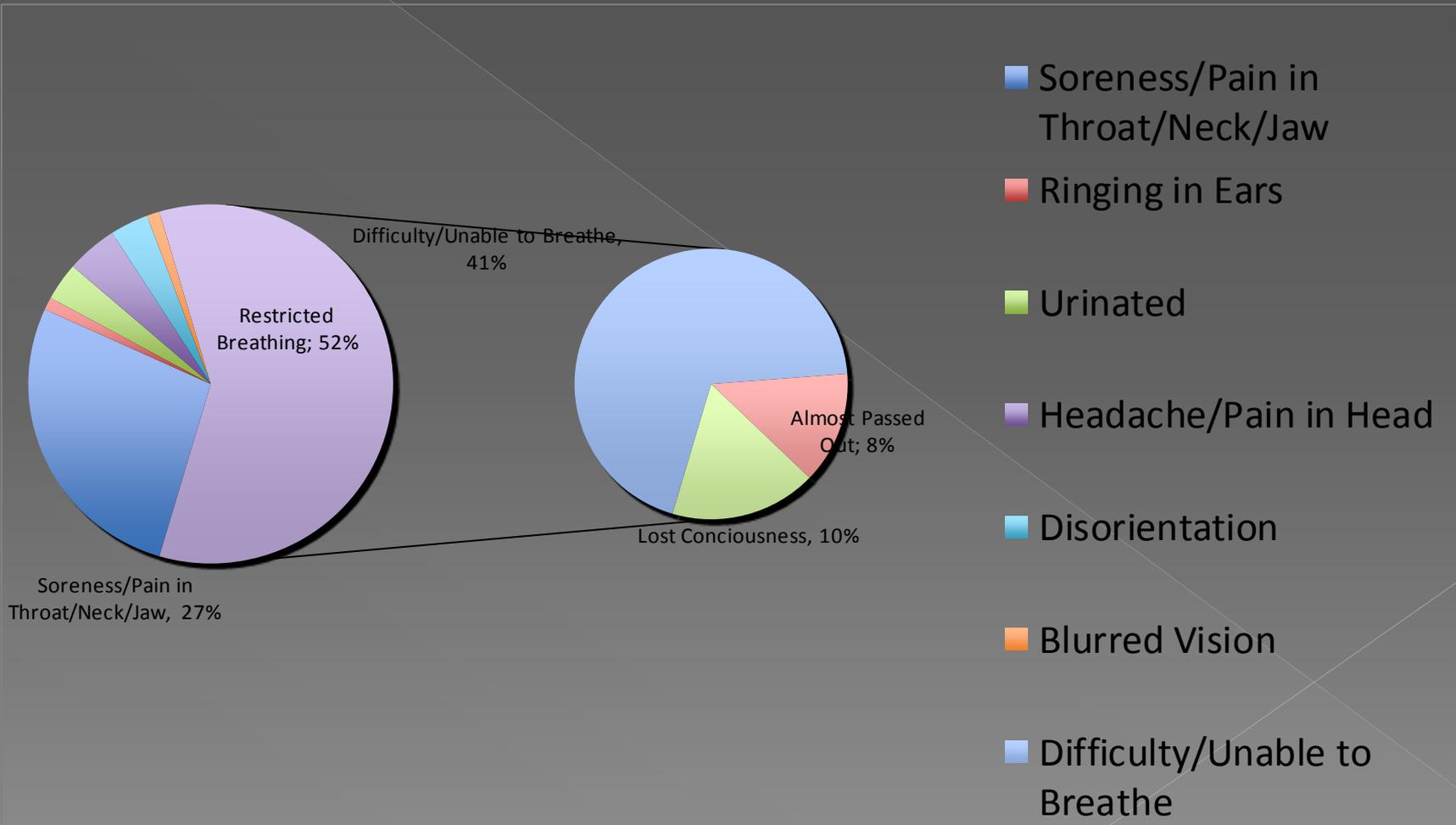
- > 16 Cases filed by MCAO
 - > 2 Sent to City
 - > 8 Turndown
- Increase from 14% filed to 61.5% filed.



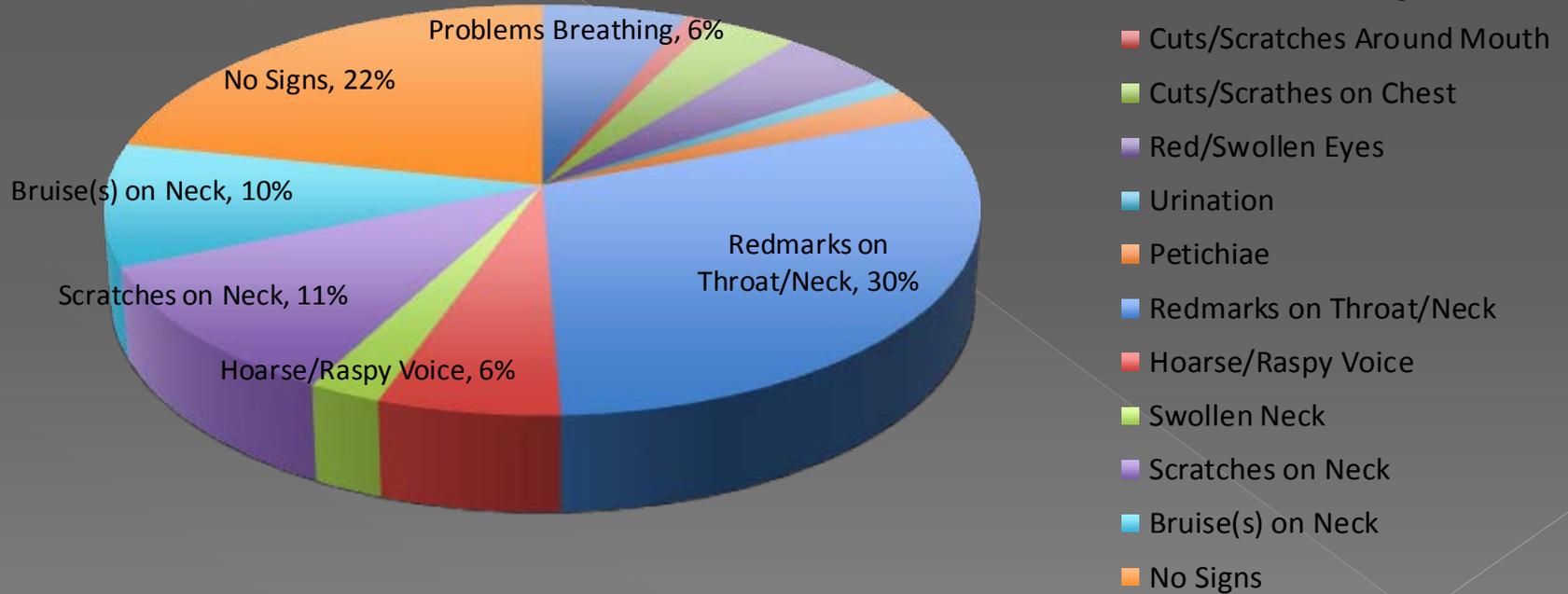
Based on Pilot Project

- 84% of Cases Where Victims Had Exams Were Submitted to MCAO

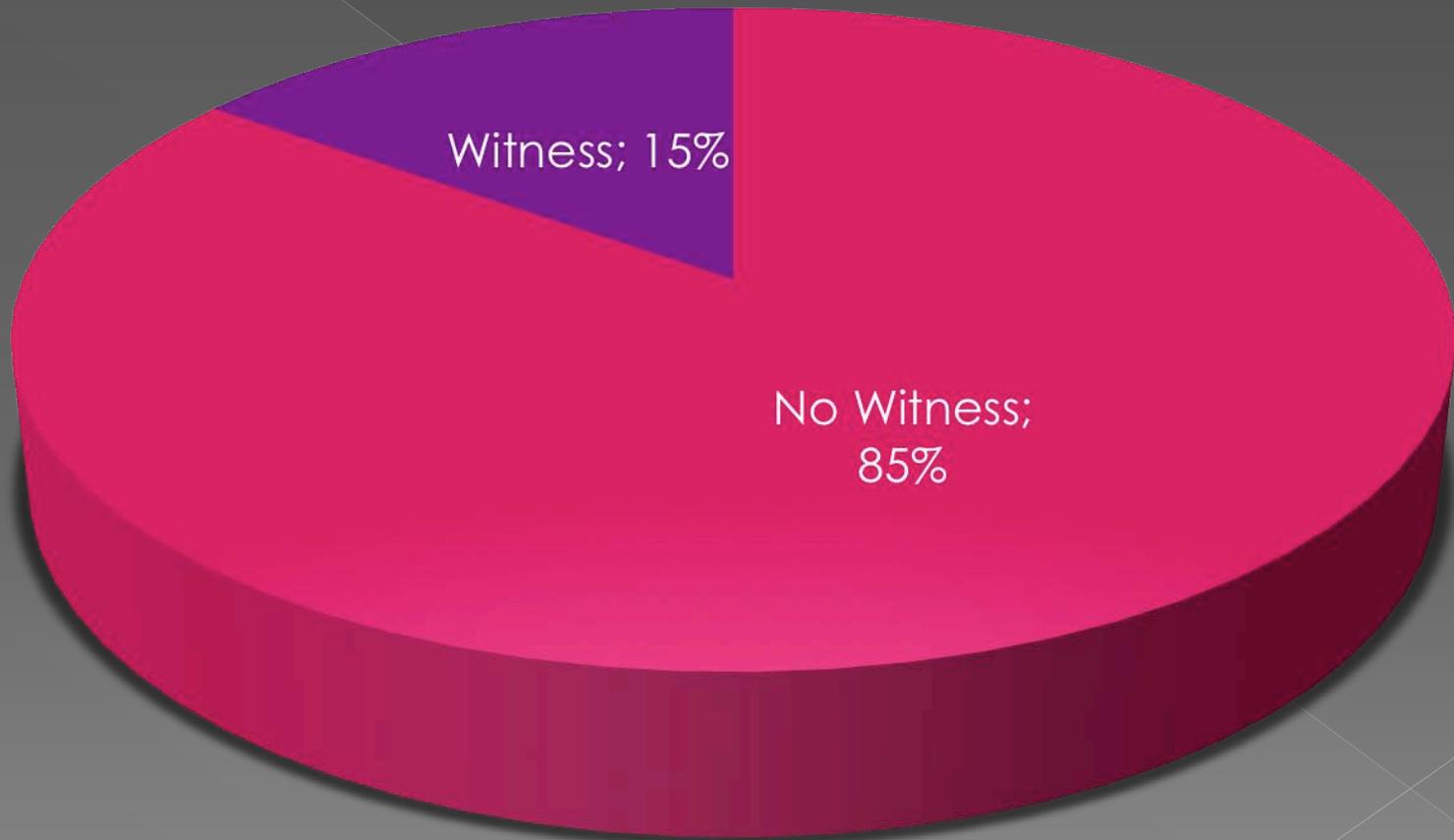
Victim's Self-Described Symptoms



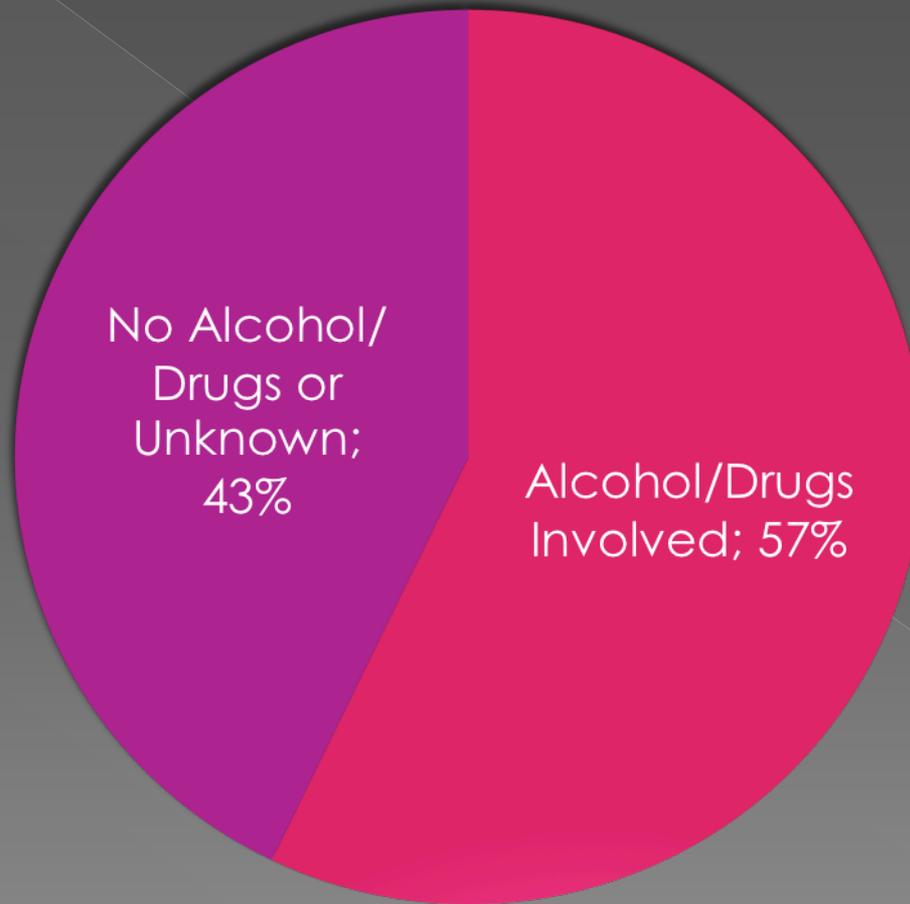
Officer Observations



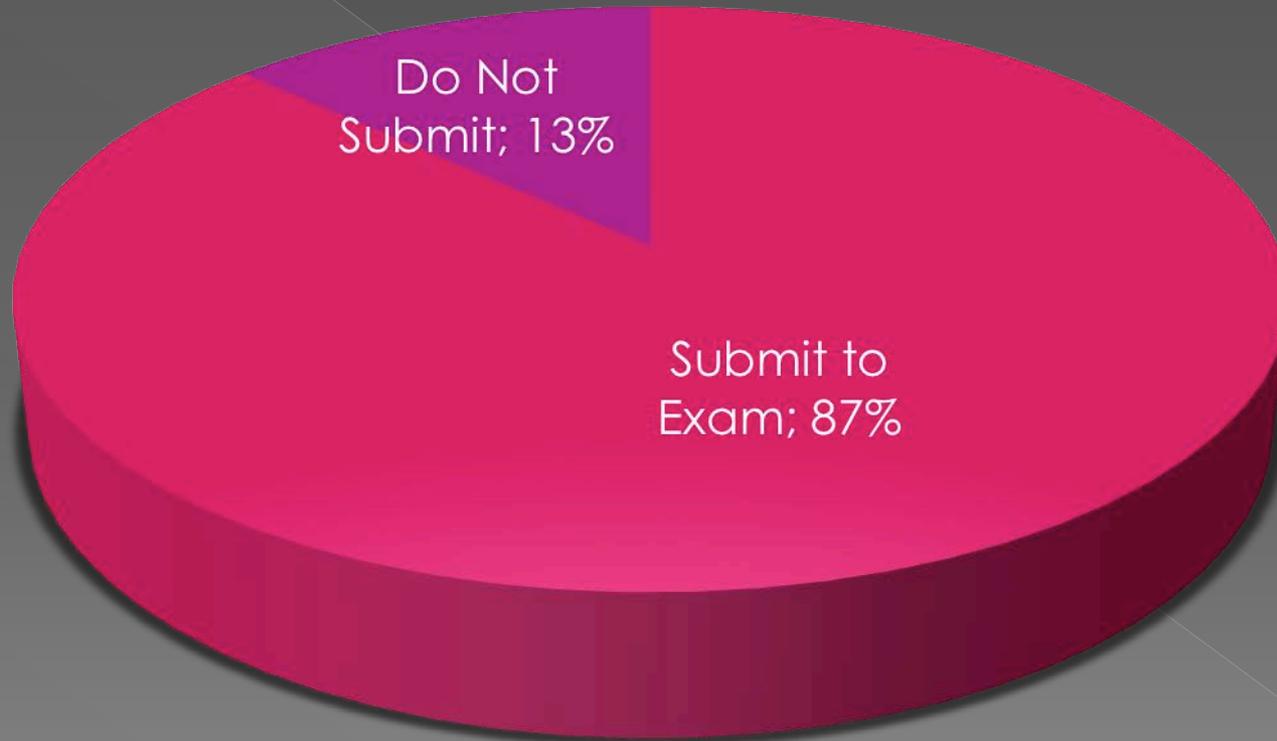
Lack of 3rd Party Witness



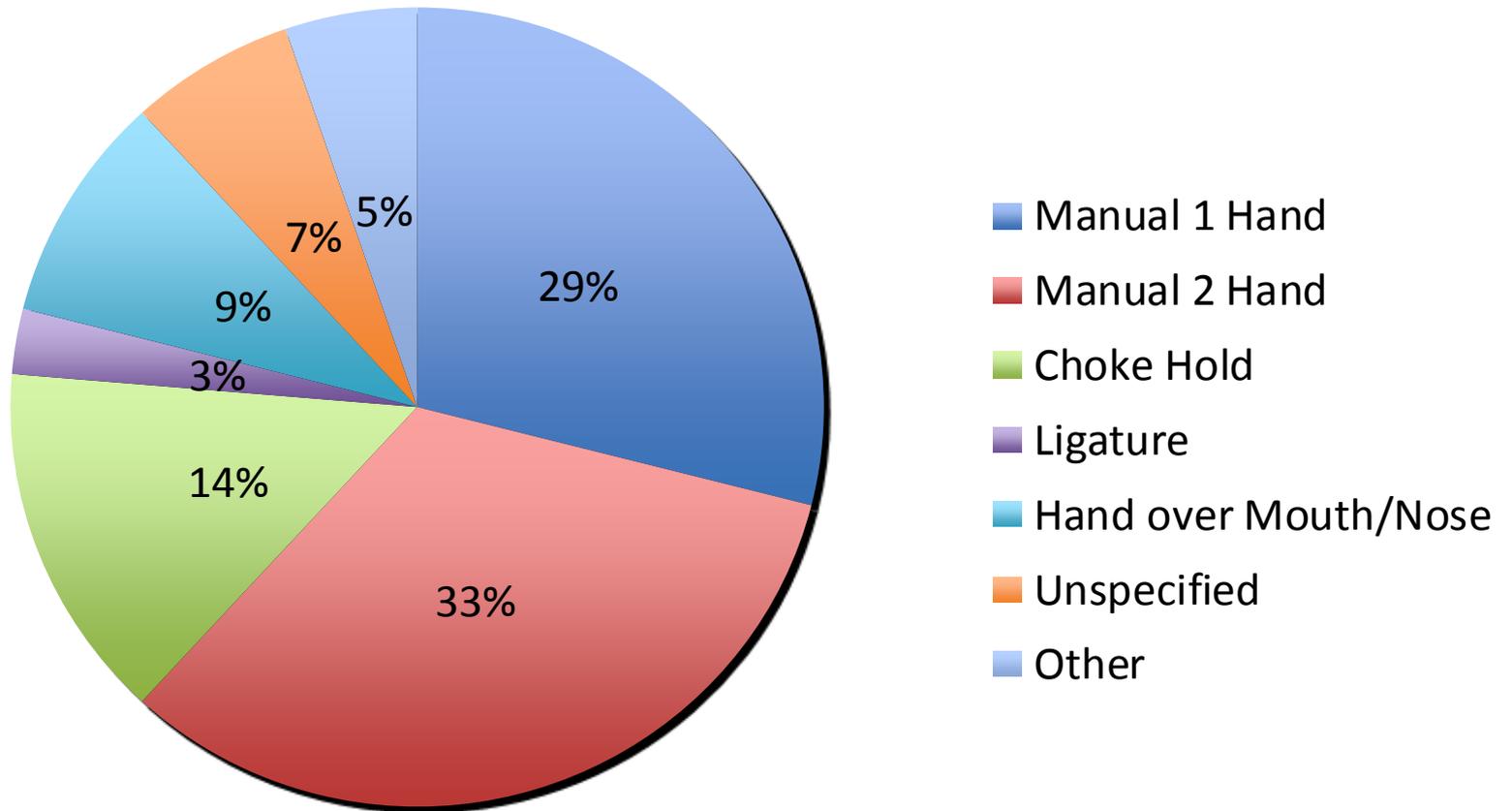
Alcohol/Drugs Involved (Either Party)



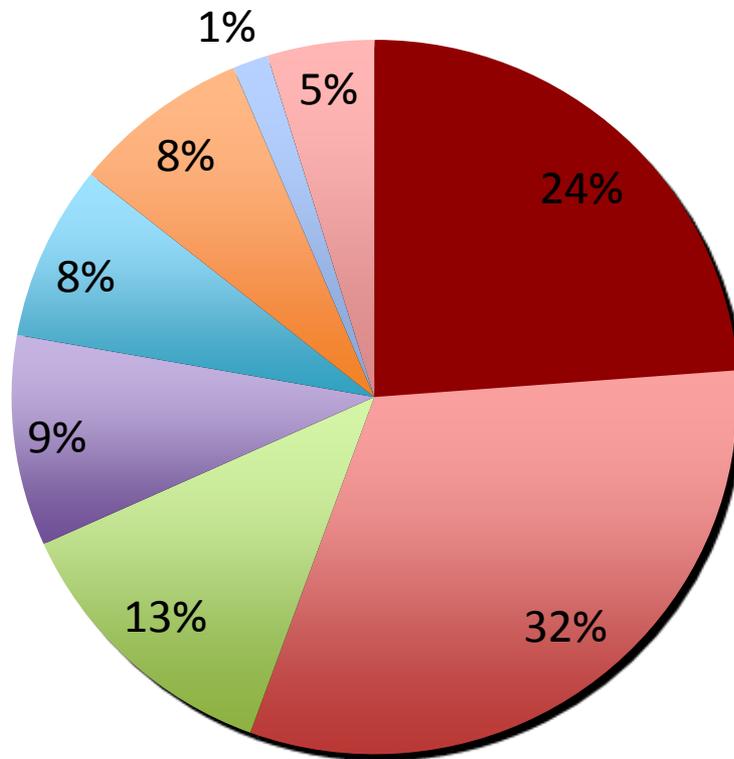
Victims Submitting to Forensic Exam



Method of Strangulation



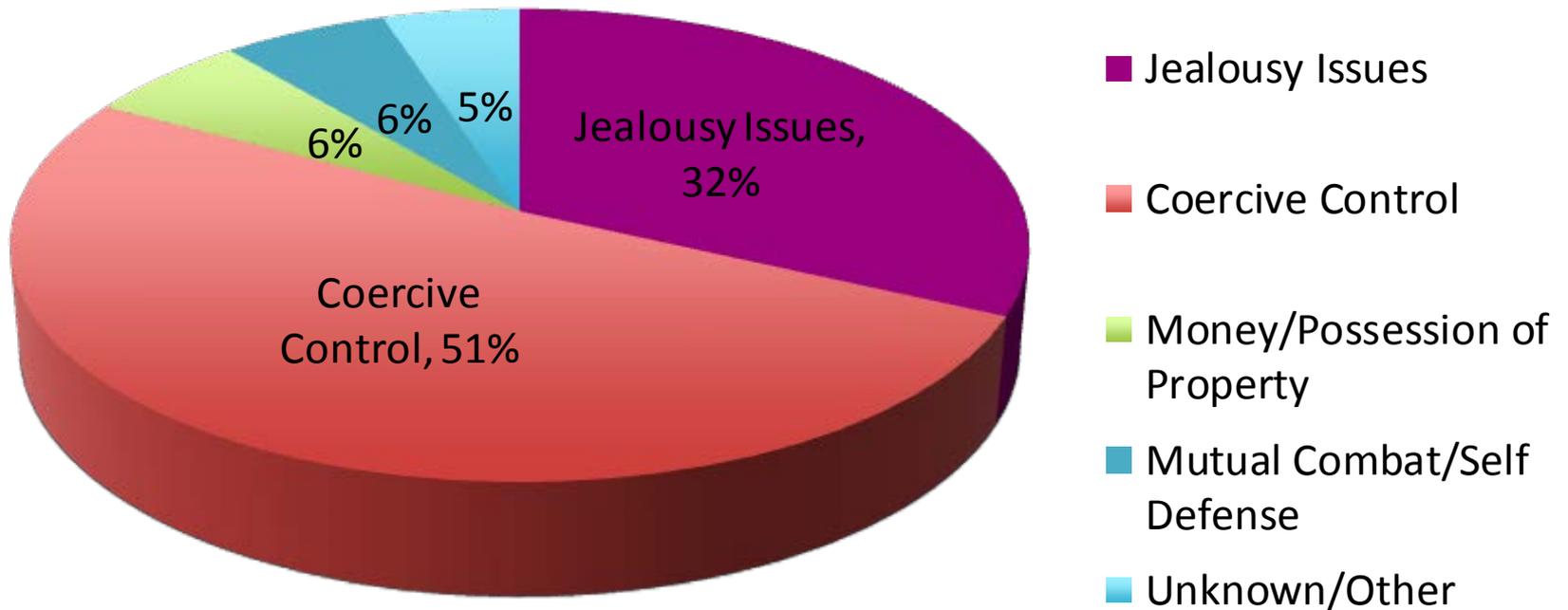
Relationship



- Girlfriend/Boyfriend with Child in Common
- Girlfriend/Boyfriend
- Ex Girlfriend/Boyfriend or Spouse
- Married
- Married with Child in Common
- Family Member
- Same-Sex Relationship
- Roommate

“Coercive control is a model of abuse that attempts to encompass the range of strategies employed to dominate individual women in personal life... Almost exclusively males, interweave repeated physical abuse with three equally important tactics: intimidation, isolation, and control.” Stark, Evan. Coercive Control: How Men Entrap Women in Personal Life. Oxford University Press (2007).

Alleged Provocation



Estimate of 1168 Exams Per Year

- ◉ 85% Submitted to MCAO During Pilot Project
- ◉ 992 Submittals Per Year (estimate)
- ◉ 61.5% of Submittals Were Filed = 610 Cases Filed (estimate)

Number of Cases of Alleged Strangulation in 2011

- Phoenix – 1000
 - Scottsdale – 60
 - **Glendale – 123
 - *Chandler – 75
 - Gilbert – 85
 - Mesa – 31
 - MCSO – 22
 - Tempe – 14
 - Surprise – 37
 - Avondale – 52
 - Buckeye – 5
 - Goodyear – 0
 - Peoria – 53
 - Paradise Valley – 0
-
- *Estimate Based on 5% of total of Domestic Violence Calls
 - **Estimate Based on Pilot Project Exam numbers

Total Calls of Alleged Strangulation in 2011

1557

75 % of Victims Consenting to Exams Based on Pilot Project

- ◉ 1557 Allegations of Strangulation
- ◉ 75% Consent to Exams
- ◉ 1168 Exams



Estimate of 1168 Exams

- ◉ *Cost \$500 per Exam

- ◉ Total \$584,000

* Increase request from Scottsdale
Healthcare from \$400

Submittals to MCAO in 2011

- 342 Submittals
- Filed Only 91 Cases
- Estimate of Additional Cases to MCAO
Per Year - 519

Project to date (December 1, 2011 to October 17, 2012)

- Total Number of Exams – 268
- Cases submitted to MCAO – 209
- Cases Turndown -32
- Cases Sent to City – 39
- Cases Furthered – 17
- Cases Filed – 106

- Approximately 55% Filing Rate

12 Law Enforcement Agency's Submitted Cases:

- ◉ Glendale
- ◉ Phoenix
- ◉ Chandler
- ◉ Scottsdale
- ◉ Mesa
- ◉ Peoria
- ◉ Tempe
- ◉ Goodyear
- ◉ Gilbert
- ◉ Avondale
- ◉ Buckeye
- ◉ El Mirage

39 Cases Have Plead

- Pleas to:

- > Aggravated Assault F6 / DV Open
- > Criminal Trespass F6D
- > Unlawful Imprisonment F6 Undesignated
- > Aggravated Assault F4 DV
- > Kidnap F2
- > Aggravated Assault F5

Sentences:

- ◉ 18 Months Probation
- ◉ 1 Year Department of Corrections
- ◉ 3 Years Probation
- ◉ 2 Years Probation
- ◉ 7 Years Department of Corrections
- ◉ 2.5 Years Department of Corrections
- ◉ Many included jail or deferred jail terms.

3 Probation Violations.

2 Contact with victim.

2 Reinstated to probation.

1 For New Crime.

1 Sentenced to 1 year

Department of Corrections