Understanding Case Connectivity: How Testing SAKs Can Link Criminal Cases

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Webinar Goals

Explain the potential utility of case connectivity and provide

step-by-step instructions about how DNA testing information

can be interpreted and analyzed to establish case connectivity

Overview

Case Connectivity = Linking Or Connecting Crimes Committed By The Same Perpetrator

How Do You Establish Case Connectivity?

Case 1 ---------- Case 2

How Do You Establish Case Connectivity?

Case 1 - - - - - - - - - Case 2

↓
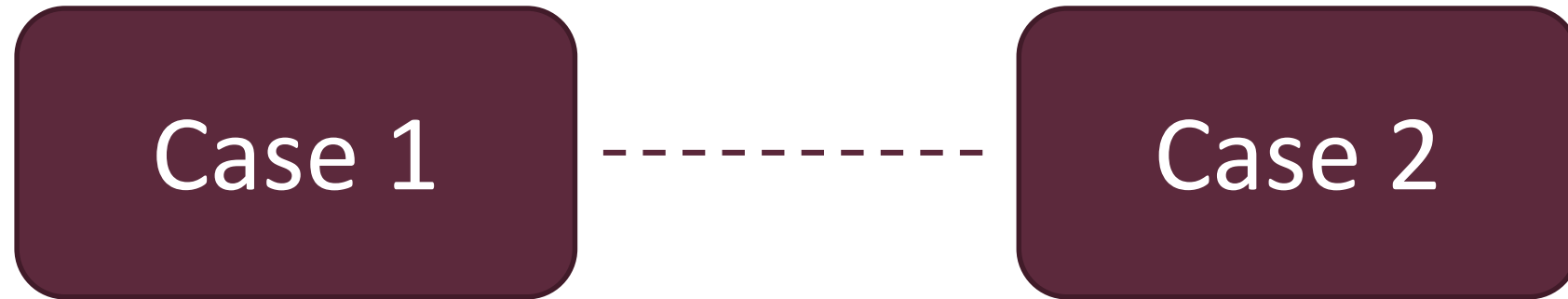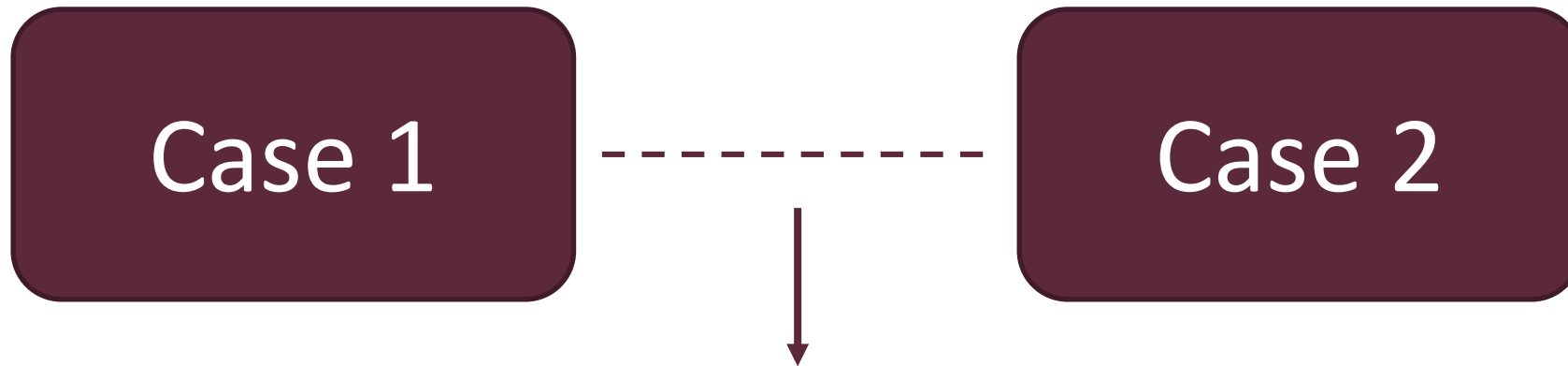
Evidence that the same
perpetrator committed
both crimes

How Do You Establish Case Connectivity?

Case 1 - - - - - - - - - - Case 2
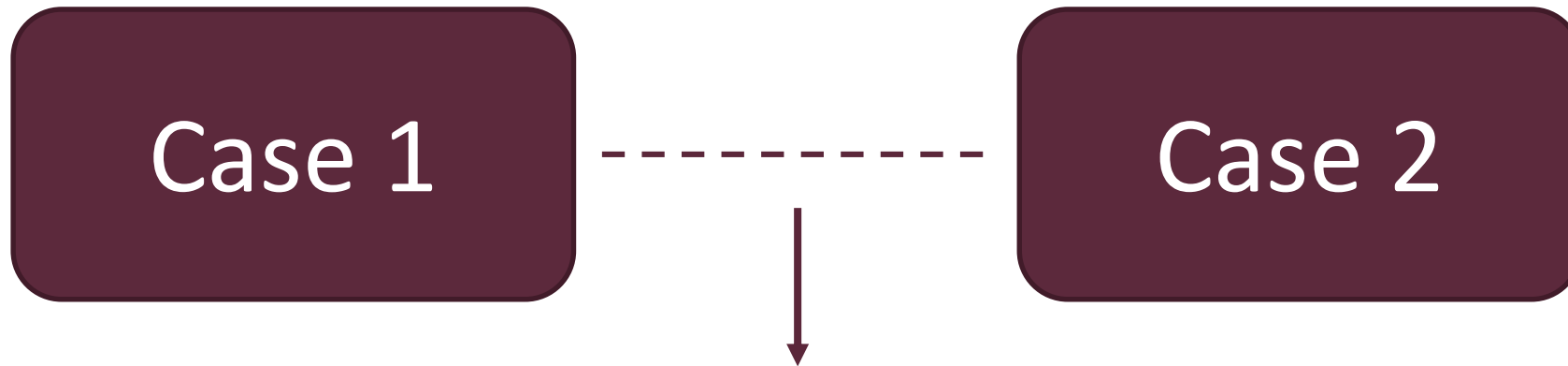
Could be witness reports, confession, offender MO, or DNA

Establishing Case Connectivity Through CODIS

Forensic Sample 1 - - - - - - - - - - Forensic Sample 2
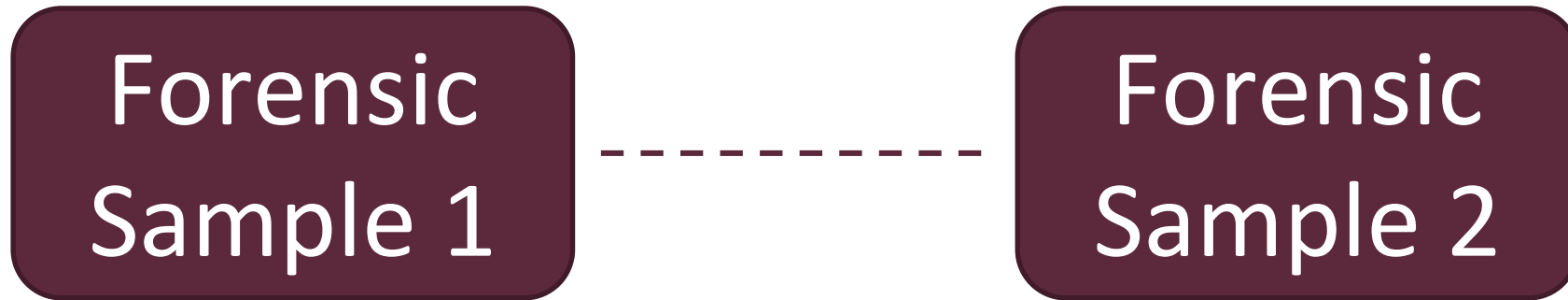
Establishing Case Connectivity Through CODIS

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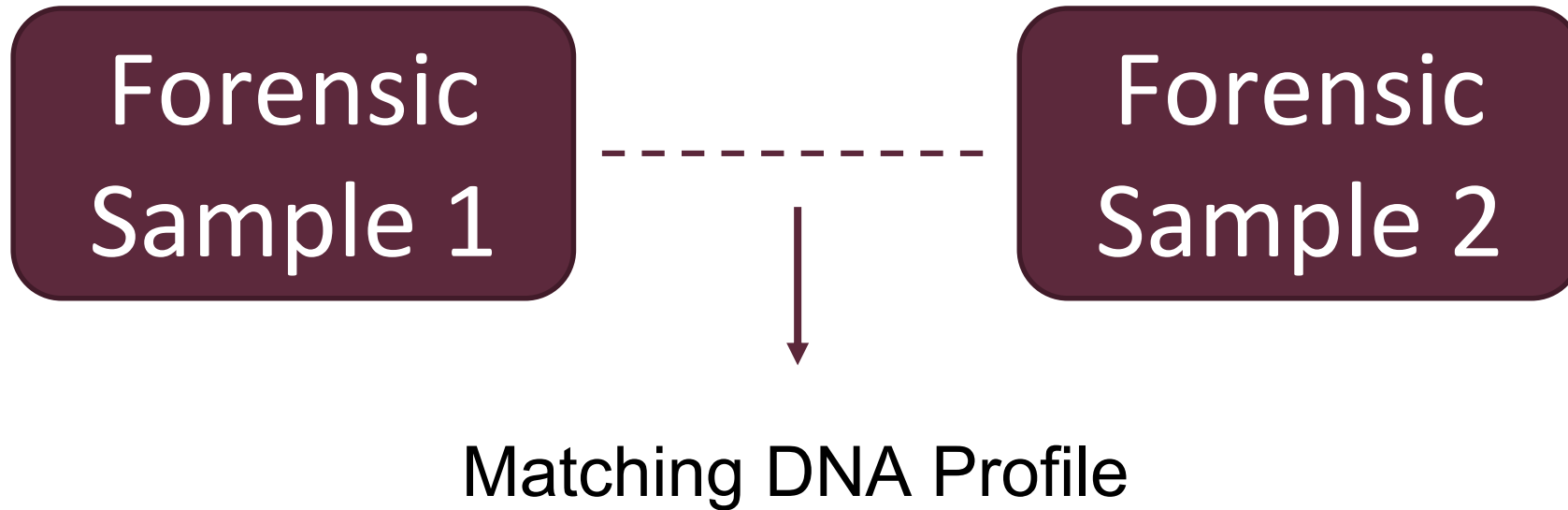
CODIS	
Offender Index:	*Forensic Index:*
Contains DNA profiles from arrestees and/or convicted offenders	Contains DNA profiles found at crime scenes, including in SAKs

Establishing Case Connectivity Through CODIS

CODIS
Offender Index: *Forensic Index:*   "Qualifying offense"   "Crime scene offense type"

Establishing Case Connectivity Through CODIS

Qualifying Offense

Crime Scene Offense Type

Offender Index

#	Offender ID	Burglary
#	Offender ID	Sexual Assault
#	Offender ID	Controlled Substance
#	Offender ID	Felony Weapons
#	Offender ID	Homicide

Forensic Index

#	Blood	Burglary
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Blood	Homicide

Establishing Case Connectivity Through CODIS

Indication of Serial Sexual Offending

Indication of Serial Sexual Offending

Offender Index		
#	Offender ID	Burglary
#	Offender ID	Sexual Assault
#	Offender ID	Controlled Substance
#	Offender ID	Felony Weapons
#	Offender ID	Homicide

Forensic Index		
#	Blood	Burglary
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Blood	Homicide

Information about Perpetrator Identity

Offender Index		
#	Offender ID	Burglary
#	Offender ID	Sexual Assault
#	Offender ID	Controlled Substance
#	Offender ID	Felony Weapons
#	Offender ID	Homicide

If DNA from a SAK that was perpetrated by a stranger results in an offender hit, investigators have a good lead as to the probable identity of the perpetrator.

Information about Perpetrator Identity

If DNA from a SAK results in a forensic hit, one of the case files associated with a forensic hit may have information about the perpetrator's identity that could be useful in the other case.

Forensic Index		
#	Blood	Burglary
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Blood	Homicide

Information about Perpetrator Identity

Example: DNA from a SAK associated

with an acquaintance-rape could hit to an

unsolved burglary. Information from the

police report associated with the SAK

could be used to investigate the burglary.

Forensic Index		
#	Blood	Burglary
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Semen	Sexual Assault
#	Blood	Homicide

Step-by-Step Directions

How to Manage CODIS Data

Step 1: Develop Relationship with CODIS Administrator

- What types of data can be shared?

- Can the CODIS administrator help you interpret the data?

- How should you communicate with them regarding problems or questions?

Step 2: Understand the Type of Information You Need

- KIT Number (KIT ID)—the ID number assigned to every SAK for tracking purposes

- Forensic Sample ID (ForSID)—the DNA profiles obtained from evidence in a SAK

- Qualifying Offense Code (QOCode) and Forensic Crime Scene Offense Type (ForClass)— the codes representing the crime that led to a forensic sample's upload into CODIS

Step 3: Identify the Kits to Include

Examples:

- All SAKs submitted 1990-2017

- All SAKs tested in the last year

- All SAKs tested with a particular set of funding

Step 3: Identify the Kits to Include

Talk with your CODIS Administrator about :

- How is your list organized—by Kit Number or another ID?

- How many cases should the CODIS administrator expect to be on your list?

Step 4: Obtain Necessary Data—Kit ID

The ID numbers for
each kit in your list

KITNumber
KIT1
KIT1
KIT2
KIT3

Step 4: Obtain Necessary Data—Kit ID

The real IDs may look
more like this

KITNumber
KIT12-3456
KIT12-3456
KIT34-5678
KIT56-7890

Step 4: Obtain Necessary Data—Forensic Sample ID

The ID numbers for the forensic samples
obtained from evidence in each SAK

KITNumber	ForSID1
KIT1	KIT1-A
KIT1	KIT1-B
KIT2	KIT2-A
KIT3	KIT3-A

Step 4: Obtain Necessary Data—Forensic Sample ID

The real forensic sample IDs
may look more like this

KITNumber	ForSID1
KIT12-3456	KIT12-3456-E01-SF
KIT12-3456	KIT12-3456-E02-ER
KIT34-5678	KIT34-5678-E01
KIT56-7890	KIT56-7890-E01

Step 4: Obtain Necessary Data—Forensic Sample ID

Note: A single kit may have
multiple forensic samples!

KITNumber	ForSID1
KIT12-3456	KIT12-3456-E01-SF
KIT12-3456	KIT12-3456-E02-ER
KIT34-5678	KIT34-5678-E01
KIT56-7890	KIT56-7890-E01

Step 4: Obtain Necessary Data—Crime Associated with Each Forensic Sample ID

Because all of these forensic samples are associated with a sexual assault, all will have the same ForClass1 Code

KITNumber	ForSID1	ForClass1
KIT1	KIT1-A	1100
KIT1	KIT1-B	1100
KIT2	KIT2-A	1100
KIT3	KIT3-A	1100

Step 4: Obtain Necessary Data—CODIS Qualifying Offense Codes

The associated Qualifying Offense code for any offender hits associated with your sample

KITNumber	ForSID1	ForClass1	QOCode
KIT1	KIT1-A	1100	
KIT1	KIT1-B	1100	
KIT2	KIT2-A	1100	740.56
KIT3	KIT3-A	1100	

Step 4: Obtain Necessary Data—ID Numbers for Forensic Hits

The ID numbers for any forensic samples
that hit to SAKs (i.e., forensic hits)

KITNumber	ForSID1	ForClass1	QOCode	ForSID2
KIT1	KIT1-A	1100		
KIT1	KIT1-B	1100		KIT4-A
KIT2	KIT2-A	1100	740.56	
KIT3	KIT3-A	1100		KIT5-A

Step 4: Obtain Necessary Data—Crime Codes Associated with Forensic Hits

The crime associated with the forensic sample associated with the forensic hit

KITNumber	ForSID1	ForClass1	QOCode	ForSID2	ForClass2
KIT1	KIT1-A	1100			
KIT1	KIT1-B	1100		KIT4-A	1100
KIT2	KIT2-A	1100	740.56		
KIT3	KIT3-A	1100		KIT5-A	3600

Step 5: Clean Your Data

Check your dataset for data entry errors or duplicate cases!

KITNumber	ForSID1	ForClass1	QOCode	ForSID2	ForClass2
KIT1	KIT1-A	1100			
KIT1	KIT1-B	1100		KIT4-A	1100
KIT2	KIT2-A	1100	740.56		
KIT3	KIT3-A	1100		KIT5-A	3600

Step 5: Clean Your Data

Consider adding the following columns:

1. Row number

2. Crime code descriptions

3. Offender hit (yes/no) or (1/0)

4. Forensic hit (yes/no) or (1/0)

Spreadsheet with Added Columns

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100						
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault		
3	KIT2	KIT2-A	1100	740.56					
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary		

Step 6: Establish Case Connectivity

Use Excel's sort and filter features to see cases with certain types of hits only

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100						
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault		
3	KIT2	KIT2-A	1100	740.56					
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary		

Step 6: Establish Case Connectivity

Use Excel's sort and filter features to see cases with certain types of hits only

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100						
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault		
3	KIT2	KIT2-A	1100	740.56				1	
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary		

Step 6: Establish Case Connectivity

Use Excel's sort and filter features to see cases with certain types of hits only

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100						
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault		1
3	KIT2	KIT2-A	1100	740.56					
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary		1

Step 6: Establish Case Connectivity

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100						
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault		1
3	KIT2	KIT2-A	1100	740.56					
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary		1

Step 6: Establish Case Connectivity

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100					0	0
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault	0	1
3	KIT2	KIT2-A	1100	740.56				1	0
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary	0	1

Step 6: Establish Case Connectivity

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100					0	0
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault	0	1
3	KIT2	KIT2-A	1100	740.56				1	0
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary	0	1

Step 6: Establish Case Connectivity

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100					0	0
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault	0	1
3	KIT2	KIT2-A	1100	740.56				1	0
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary	0	1

Step 6: Establish Case Connectivity

Use these features as needed to see Kits with both offender and forensic hits or with neither

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT1	KIT1-A	1100						
2	KIT1	KIT1-B	1100		KIT4-A	1100	Sex. Assault		
3	KIT2	KIT2-A	1100	740.56					
4	KIT3	KIT3-A	1100		KIT5-A	3600	Burglary		

Step 6: Establish Case Connectivity

Use these features as needed to see Kits with both offender and forensic hits or with neither

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Step 6: Establish Case Connectivity

Use these features as needed to see Kits with both offender and forensic hits or with neither

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Step 6: Establish Case Connectivity

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Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Step 6: Establish Case Connectivity

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Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Step 6: Establish Case Connectivity

Use these features as needed to see Kits with both offender and forensic hits or with neither

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Step 6: Establish Case Connectivity

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Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Step 6: Establish Case Connectivity

Use these features as needed to see Kits with both offender and forensic hits or with neither

Row#	KIT#	ForSID1	ForClass1	QOCode	ForSID2	ForClass2	CrimeClass2	Off.Hit	For.Hit
1	KIT7	KIT7-A	1100					0	0
2	KIT7	KIT7-B	1100		KIT8-A	1100	Sex. Assault	0	1
3	KIT7	KIT7-B	1100		KIT9-B	3600	Burglary	0	1
4	KIT7	KIT7-B	1100	740.56				1	0

Consider Using Case Studies to Communicate Case Connectivity

Woman raped, shot, and thrown from a car.

Larry McGowan arrested for receiving stolen property.

Woman raped, shot.

McGowan arrested for receiving stolen property and assault of an officer.

McGowan arrested on multiple burglary charges.

Woman raped. McGowan is arrested.

His DNA is collected and sent for analysis.

MAY 1996   MAY–JUNE 1997   AUGUST 2000   NOVEMBER 2012

FEBRUARY 1997   JUNE 1998   DECEMBER 2010

Woman raped, beaten, and killed.

McGowan arrested for stolen property and theft.

McGowan arrested for receiving stolen property.

Woman raped at gunpoint.

McGowan arrested for burglary.

As a result, McGowan is matched to the unsolved sexual assaults in this timeline.

Free tool for creating similar timelines: www.canva.com

THANK YOU!!

Questions?

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